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ORIGINAL COMMUNICATIONS.

ART. I.—*A Case of Amputation at the Shoulder-Joint. With Remarks.* By E. R. PEASLEE, A. M., M. D., Professor of Physiology and General Pathology in the New-York Medical College, and of Anatomy and Surgery in the Medical School of Maine. [With a Plate.]

AMPUTATION at the shoulder-joint, though sufficiently common in military surgery, and not very infrequent in civil hospitals, is an operation but rarely performed by the private practitioner. But 26 cases* in all have thus far been in this country fully reported; and of these only about 20 occurred in private practice. The following report will afford to the list an additional case.

James Doughty, of Brunswick, Maine, aged 66, of sanguine temperament, good muscular development, active habits, and in good health at the time, accidentally discharged a common

*As shown in an able and interesting paper in the January (1853) No. of this Journal, by the Junior Editor.

musket while in the act of getting over a fence on the 11th of March, 1845, and thus produced the following injury to his right arm. The muzzle of the gun being within three or four inches of his shoulder at the moment, as he had placed the breech upon the ground while still himself upon the fence, the whole charge (of shot) passed directly through the arm; entering on the inside just above the insertion of the deltoid, and passing obliquely backwards, upwards, and outwards, so as to emerge directly below the acromion process, and, in its course, shattering about two inches in length of the os humeri into minute fragments. The entering wound was circular, and corresponded in size with the calibre of the gun, being nearly an inch in diameter. The outer wound was of a circular outline, but very ragged at its edges, of a conical form, (the base being at the surface,) and was three inches in diameter externally, or large enough to have received a teacup of ordinary size; several ounces of muscle, with some portions of bone, having been blown out by the discharge. Above the shivered portion of the os humeri, the head and about three-fourths of an inch of the shaft still remained in their place.

Drs. Lincoln and Ellis were at once summoned to the patient, and I also saw him about three-quarters of an hour after the accident occurred. I found its precise nature and extent to be such as has been described. The patient was then in a state of collapse, and very cold; his pulse almost imperceptible, his teeth chattering, and his countenance pallid and anxious. The pain in the region of the injury was not however severe, so long as the part was kept perfectly at rest. The hemorrhage had been moderate, but still continued, he having lost probably not more than twenty ounces of blood. I assured myself that the anterior circumflex artery, as well as the brachial, had been divided.

It was unanimously decided that the only chance for the patient lay in amputation of the limb at the shoulder-joint; and I decided to perform it as soon as the necessary arrangements could be made, and the indications of commencing reaction were established.

The patient was, however, more than half a mile from home, and must be removed that distance over a rough road,

on a bleak chilly day. This experience on his part was not calculated to hasten the reaction desired, or to arrest the hemorrhage. Every thing possible for his comfort was however arranged, and he arrived at his own house at about 5 o'clock P. M.—the accident having occurred one and a half hour previously. Soon afterwards the pulse and temperature of the surface began to rise, and at half-past 5 o'clock the operation was performed, with the assistance of Drs. Lincoln and Ellis, and Dr. J. B. Upham, now of Boston. The reaction had been promoted by dry fomentations and the administration of laudanum; which had been so frequently given that he had taken not less than one ounce during the time which had elapsed between the accident and the operation—as I afterwards ascertained. None but the best effects, however, ensued; his previous habits having been (as his medical attendants understood,) such as to render him not a stranger to the effects of stimulants.

So much of the soft parts near the shoulder had been removed, as has been seen, that only a very small and irregular anterior flap could be formed. The parts also which were needed for a posterior flap were blown out so extensively as not to allow the formation of a flap sufficiently wide to cover the lower part of the wound in that direction. And yet the flaps must be anterior and posterior, so far as the material to form them might be obtained.

A catlin was therefore passed through from the inner edge of the deltoid, at a point two inches below the joint, and out at the edge of the external wound, and a very small anterior flap was thus made. The knife was then carried through the joint, and a posterior flap made of the skin and triceps muscle, extending nearly half way to the elbow. This flap, however, was barely long enough to meet the other in the middle, and was so narrow at the part opposite to the two openings made by the passage of the charge, and where so much skin and muscle had been carried away, that only about three-fourths of the whole wound left after the extremity was removed could be closed and covered, on adjusting the flaps in the best possible manner. The subclavian artery was compressed by Dr. Ellis during the operation; and about four ounces of blood

were lost. No anæsthetic was used, except the laudanum; as Dr. Morton's discovery was not made till more than a year subsequent to this time.

About one-fourth of the wound was left uncovered, for the reason before mentioned, on adjusting the flaps as well as could be done by means of sutures and adhesive straps. A compress with a cold water dressing was alone applied over the straps; this to be kept constantly moist by dropping water upon it, as required, from a sponge. Reaction, commencing before the operation, was well established within an hour after it; and the patient was left for the night.

March 15.—Patient slept well the night after the operation, and each night since. Has had a good appetite, no febrile reaction, and been very comfortable in all respects, except, as the weather is very severe, and the house not very comfortable at best, he has suffered somewhat from the coldness of his room. The wound is now (ninety-six hours after the operation), dressed for the first time. It looks well, only a slight degree of suppuration having become established. The simple water dressing was still reapplied, and the patient kept on nutritious but simple diet as before; and no medicine was advised, except a laxative as required from time to time, till suppuration was thoroughly established, when the sulphate of quinine in small doses was administered.

On the ninth day after the operation—up to which time all things progressed well—the patient was attacked with erysipelas on the upper flap, and a good deal of febrile excitement ensued. This disease continued for ten days, and during its continuance extended over every part of the patient's body *excepting the wound itself*, which it never actually invaded at all. During this attack the patient was supported on sulphate of quinine and beef broth; and common wheaten flour was locally applied to the inflamed surface alternately with a lotion, of which laudanum formed a considerable part.

Subsequently to the disappearance of the erysipelas all things returned to the previous desirable state. Though the suppuration was profuse, the patient steadily recovered upon beefsteak and brandy, and sulphate of quinine as required; and first walked out on the 25th of April, (fifty-four days after the

operation.) The wound soon afterwards closed, and he remained in usual health till nearly the time of his death, (which occurred from dysentery, I think,) in the summer of 1851.

In April, 1847,—two years after the operation—the patient presented himself before the Medical Class of Bowdoin College, to give an opportunity for examination of the cicatrix and stump, of which a drawing was then made. The accompanying engraving gives an accurate idea of the appearance of the parts at that time. The axillary artery was felt pulsating directly under the skin just three-fourths of an inch from the anterior extremity of the cicatrix, at the point indicated by the cross.

Remarks.—Considering the admitted severity of this operation, the age of the patient, and his former habits, the preceding result was hardly to be expected; especially since a long process of granulation and exhausting suppuration was necessitated to repair the solution of continuity, while his poverty confined him to an uncomfortable room, and prevented him from receiving the best care and attendance after the operation. The appearance of erysipelas also, on the 9th day was regarded as a new element of danger in his case; and much febrile reaction and general irritation ensued. It was, however, singular that it did not invade the wound, nor change the secretion in the least, except over a small space at the top; though it extended entirely over every other part of his surface. The local application before mentioned, sulphate of quinine in small doses, with an occasional dose of pil. mass. hydrarg., followed by castor oil, was the only treatment resorted to, during its continuance. Subsequently, he was sustained for weeks by wine and quinine, with beef broth and beefsteak, and the usual accompaniments. A more minute examination of the elements of this case, will, however, perhaps enable us to account for the successful result in circumstances at first view apparently so unfavorable.

I. In the first place, I believe both the relative and the absolute danger of this operation have been generally overrated. The Hospital Statistics adduced in the valuable paper alluded to in the commencement of this report, lead to the

conclusion that it is more hazardous than amputation of the arm or even of the thigh. The after treatment, however, has so much influence on the success of severe amputations, that comparisons of results in hospitals of different countries, though in regard to the same operation, are not to be relied upon. Indeed, to obtain reliable results, either as to the comparative danger of different operations, or the absolute danger of any particular one, we must confine our observations to the same hospital or at least to those in which the same general method, both of operation and of after treatment, is adopted. It is well known that all serious operations are less successful in the French than in the English hospitals; the after treatment, in my own opinion, accounting mainly for the difference. Consequently, we find* that in France $72\frac{2}{9}$ per cent. die after amputation at the shoulder-joint; in this country $53\frac{1}{3}$ per cent.; and in Great Britain only $39\frac{1}{14}$ per cent. This would make it appear a more dangerous operation than amputation of the thigh, and far more so than amputation of the arm. But on the other hand, it appears† that in Paris alone, 50 per cent. only of the amputations of the shoulder-joint prove fatal; just the same proportion of amputations of the arm,—and only 20 per cent. of amputations of the thigh being so—making the last far the least hazardous of the three operations, and the other two equally dangerous.

But the favorable must also be distinguished from the unfavorable cases, even in the same Hospital. The second series of reports of cases in the New-York Hospital (p. 15), makes the percentage of deaths, after this operation, nearly twice as great as the first does, and that of death after amputation of the thigh, more than two and a half times as great; while, according to the first series, amputation at the shoulder, and according to the second, amputation of the thigh, is the most fatal of the three. Until, therefore, the cases favorable for the amputation are distinguished from those not so, and, having done this, we compare the results of this amputation with those of the other two in the same hospital, or hospitals similarly conducted so far as the after treatment is concerned—statistics in regard to the absolute or the comparative danger of this operation cannot be relied upon.

* Page 13, of the paper alluded to.

† Page 15.

No reason is apparent on general grounds why this operation should be essentially more dangerous than amputation of the arm near the joint, and I should consider it altogether less dangerous than amputation of the thigh. If it be said that there is greater danger of secondary hemorrhage in case of amputation at the shoulder, there exists no proof at all of such an assertion,* nor is it probable on either anatomical or physiological grounds. If it be said that union does not occur as rapidly in favorable circumstances, there is here also an equal deficiency both of proof and of probability. So far as sloughing of the stump is concerned—it is probably less likely to occur in this than in either of the other two cases, as it is nearer the centre of the circulation. For the present, then, the writer risks the opinion that this operation is in itself not essentially more hazardous than amputation of the arm, and is decidedly less so than that of the thigh.

II. The hemorrhage which preceded the amputation had, it is believed, a favorable influence. It is often stated in reports that *only* a certain number of ounces of blood was lost, as if the least possible loss were always desirable. In regard to an *anæmic* patient, this is doubtless a correct idea. But in case of a perfectly *healthy* and vigorous patient it is not so. In such a patient, as much blood should be lost, at least, as is constantly circulating in the limb before its removal, otherwise the patient is left in a state of actual plethora, to some extent, in consequence of the operation; a state not to be desired, certainly, when still other causes predisposing to inflammation exist. Even more blood than this indeed should be lost, in order to reduce, to some extent, the amount remaining in the vessels, and thus to diminish the risk of subsequent inflammation. Now I find the upper extremity of a well developed male weighing 150 lbs., when removed by amputation at the shoulder-joint, weighs, if deprived of blood as far as may be, somewhat over five lbs. or one-thirtieth part of the whole body. But estimating the whole amount of blood in

* The axillary artery was divided in this instance, just above the origin of the circumflex arteries; it appeared to be closed up, in the cicatrix, as far as to the origin of the subscapular.

such a subject at 30 lbs., as is usual (one-fifth the weight of the body), the weight of the whole body *without* the blood is reduced to 120 lbs.; and the arm, weighing as just explained, will constitute one-twenty-fourth of the whole weight, and be entitled therefore to $1\frac{1}{4}$ lbs. blood. It is, however, impossible to remove all the blood from the capillaries and the minute vessels of the limb, even by amputation during life. But if we suppose even a quarter of a pound to remain, it will still follow that one pound should be allowed to flow from the artery during the operation, in order to maintain undisturbed the equilibrium of the circulation. True, this is merely an approximate result. But when we consider also the propriety of still farther depletion for the reason before mentioned, we conclude that the loss of at least one pound, and probably even $1\frac{1}{2}$ lb. of blood, is desirable in the case of a healthy and vigorous adult, who is the subject of this operation. This last amount was lost by Doughty, as nearly as could be estimated.

Nor is this principle less important in obstetrics than in surgery. The perfectly healthy (and generally somewhat plethoric) parturient female should lose from one to two lbs. of blood at least, in parturition, in order to be in the best possible condition for a convalescence without accidents; and I have believed myself able to trace febrile excitement, and even actual as well as threatened metro-peritonitis, to too slight a degree of hemorrhage, in the circumstances specified. The explanation of this, will occur to any one conversant with the state of the uterus and the nutrition of the fœtus before and immediately after parturition. I need not perhaps repeat that I am not here speaking of *anæmic* subjects.

Interesting also in this connection is the fact stated by Richerand, that the removal of one of the lower extremities sometimes entirely changes the temperament of patients; those becoming subsequently energetic and active who were previously languid and inefficient. A more plethoric or at least less anæmic state, and an increased fulness of flesh, accompany this change; the forces subservient to nutrition being relatively increased by the diminution of the mass to be nourished.

III. Nor was the danger of the operation essentially increased by the age of the patient, provided he were in perfect health at the time, and had not yet manifested the signs of

senile decay. In both these respects he was in a good condition; and his subsequent progress showed that his previous habits had not essentially impaired his constitution. And here I would also insist, as essential to the reliability of statistics respecting all severe operations, that they include only those cases in which the patients are *in a state of good health at the time.*

In regard to this and all other serious amputations it may be remarked, that those which have been necessitated by gunshot accidents are, as a class, the most valuable for statistical purposes, since these generally occur to persons in health at the time. In this way indeed we account for the comparatively slight danger from amputation at the shoulder-joint in military surgery. The article before quoted states the fact that Larrey (*Memoirs of Military Surgery*) had operated successfully on the battle-field in ninety out of somewhat over a hundred cases; and Mr. Guthrie operated successfully in eleven cases out of fourteen. In all these cases the operation was, however, performed before febrile reaction was established—was the *primary* operation as it is called. The *secondary* operation was fatal in the English army during the Peninsular war in fifteen cases out of nineteen; for here a disease is superadded to the operation, and to both combined the patient is very likely to succumb. This view of the subject would seem to set the question conclusively at rest, as to the propriety of ever performing the secondary operation, when it can be decided in season to perform the primary, that the amputation cannot be avoided.*

This amputation therefore, other things being equal, will succeed better in private practice when necessitated by accidents from firearms, than when by disease of the limb. And in this class of cases probably the operation would be found to be as successful in private as in military practice. Malignant disease, on the other hand, affords almost a presumption of a fatal result.

There is however another class of injuries too frequently of

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* The late Dr. M'Clellan of Philadelphia performed this operation six times, and always successfully. *Ubi supra*, p. 12.

late requiring amputations in private practice, which are not to be classed with gunshot injuries in the respect now under consideration; I allude to *railroad accidents.* The comparative ill success of amputation after severe railroad accidents has been very generally overlooked. They most frequently befall persons in good health, as the employés upon the roads are the most frequent victims; and yet subsequent accidents, especially irritative fever, sloughing of stumps, and secondary hemorrhage, are very common. There is often in this class of accidents, a concussion of the whole body not common in gunshot injuries, and which indeed a musket ball can never produce. This induces a state of collapse from which the reaction is usually of a low grade, and the state which Travers calls "prostration with excitement," (and which is better termed "incomplete reaction,") ensues. This is a state most unfavorable for recovery from an operation, and the irritative fever accompanying it is well known to be in itself often productive of fatal effects even in cases where there is no local injury.

But another cause of the doubtful success of amputations after railroad accidents, is to be found in the fact that the vast force and the rude violence which produce the local injury, render it altogether more extensive than it at first appears to be. For example, the leg is crushed just above the ankle by the wheel of a railroad car, and two inches above the point where the force was applied, every thing appears perfectly sound. And yet, if the limb be amputated at that point, very likely the stump will slough because all the soft parts under the skin were, for a considerable extent, either killed or nearly deprived of their vitality, at first; or, very possibly, secondary hemorrhage will ensue from a similar unsuspected injury to the artery. Still neither of these conditions can be discovered by any external examination at the time; and the normal appearance of the skin, as it will usually be less extensively injured, is well calculated to mislead us. Governed by these facts, in a case precisely like the one just supposed, I amputated at "the place of election," as it is called; and found on examination of the part removed that though the skin was uninjured for more than an inch above the injury of the bone, the muscles were dead and black to a point only an

inch below that selected for amputation, in front; and behind two and a half inches below it. In another case, the anterior half of the foot was crushed in a similar manner, the remaining portion being apparently uninjured. Wishing to save the rest of the foot if possible, and still apprehending that if I performed Chopart's operation at once, I should be obliged to amputate a second time, from sloughing of the stump, I decided to wait two or three days till it should become apparent whether the deep seated parts implicated in this operation were actually dead or not. At the end of three days, patches of mortification had appeared in the skin just below the malleoli, and there ceased to extend upwards. The next day I performed the supra-malleolar operation, and the patient, like the last-mentioned, made a rapid recovery. On examination of the part removed, the whole of the skin and superficial fascia were found entirely detached from the deep fascia and tendons, and could be removed like a high shoe, on making a circular incision just below the malleoli. The muscular fibres also of the foot throughout, were black and gangrenous. In a third case, I amputated the arm, though the injury appeared not to extend above the middle of the forearm; and here also was able to demonstrate the propriety of so doing. But I need not multiply illustrations of the principle inculcated by these facts; which is that *in cases of railroad injuries requiring amputation, allowance must be made in selecting the part for the operation, for a greater extent of injury to the deeper parts than is at first indicated by external appearances.*

IV. The occurrence of erysipelas on the ninth day, and its continuance for ten days, might have proved a serious complication had the patient been in bad health previously—had he not lost a sufficient amount of blood before, and in connection with the operation—and had active depletory medication, especially active cathartics, been adopted to meet it. The patient being, however, in a good condition, in other respects, and this being, in my opinion, essentially a self-limited disease in its duration in any particular part, (though not, of course, in its extent,) it was believed to be a principal object to sustain his strength. But as not medicine, but appropriate nutriment, properly digested and assimilated, is the only known

source of vital force, the treatment resolved itself into two elements: keeping the digestive organs in the best possible condition, and giving bland but very nutritious food. The sulph. quinine, and, when required, blue pill followed by ol. ricini fulfilled the first indication, and the beef broth the second.

And can any thing more than this be accomplished in any common case of erysipelas in the way of internal medication? Violent cathartics, whether mercurial or otherwise, are generally very injurious; and none at all are required unless indicated by the state of the alvine secretions, and which are, however, almost invariably deranged at the commencement of the attack. I have substituted the tinct. ferri muriat. for the sulph. quinine in this disease, for a few years past, and believe it not only acts as well as a tonic, but, even more than that remedy, modifies the capillary circulation, and thus prevents the extension of the inflammation. Fifteen to even twenty-five drops may be given to an adult, every three or four hours; and it is not contra-indicated by delirium, (even as in erysipelas of the scalp or face,) nor by a pulse of 120 or more. But neither these, nor any other remedies which I have seen administered internally, have any decided apparent effect, in abridging the duration of the disease in the part first affected. It will continue a week at least, and usually about ten days, even though it remains confined to a small surface.

Of *local* applications, the nitrate of silver, and some others, will sometimes prevent its extending, but generally will *not.* The patient's comfort is, however, essentially augmented by such applications as will exclude the air, and also cool the surface, if there is a sense of excessive heat, or diminish the sensibility if there is much pain.

V. But though the patient triumphed over all other opposing circumstances, he would probably have succumbed to the profuse suppuration which ensued, had it not been for the judicious and assiduous attentions of Dr. Lincoln, his attending physician. Although himself still more advanced in life than the patient, and incessantly pressed at the time by his professional duties, he nevertheless visited him twice or thrice daily, for several weeks in succession, frequently also purchasing for him the food best calculated to sustain him; and this with a

certainty that no pecuniary compensation would be rendered. And while I feel a pleasure in recording the successful termination of this case, I enjoy at least an equal gratification in recognizing, here, the generous conduct by which it was finally secured.

ART. II.—*On an Obscure Form of Acute Pleuro-Pneumonia. A Paper read before the Rockland County Medical Society.* By CHARLES HASBROUCK, M. D.

THE following cases are reported, with remarks, for the purpose of calling the attention of the Society to an *obscure form of acute Pleuro-Pneumonia.* One of the cases occurred since the last meeting of the Society, and therefore this paper may be regarded as a sort of supplement to the Report of the Committee on Diseases.

The diagnosis of acute pleuritis and pneumonia is usually represented to be an easy matter; and except in cases of intercurrent pneumonia, the location and kind of pain, the difficult and catching respiration, the cough, character of the expectoration, &c., are, generally speaking, abundantly sufficient to remove all doubts, as to the seat and nature of the attack. Unfortunately, however, cases occasionally occur which are attended with unusual symptoms, or rather in which the usual diagnostic symptoms of these diseases are entirely absent, or in which the pain, if present, is referred to parts remote from chest, and thus tends to divert the attention from the real point of attack.

Judging from my own observation, cases of this character are by no means of unfrequent occurrence, and it has occurred to me, that by directing the attention of the profession to this fact, a benefit may be conferred upon the young practitioner, and perhaps also upon those "elder brethren" who sneer at auscultation as a means of correct diagnosis. The following case occurred in the early part of my professional life; and I am induced to report it in the hope that others may, if possible, be spared the pain and mortification of similar errors.

CASE 1.—Mrs. Eliza Kipp, aged about 30 years, of a constitution naturally delicate, and still further impaired by an

almost constant condition of pregnancy or lactation, was confined with her third or fourth child in the latter part of July, 1841. On the 9th of August, while she was yet confined to her room, she was suddenly seized with violent pain in the right iliac region, extending along the course of the ureter to the lower part of the loins. The pain was constant, very severe, and rather aggravated by a full inspiration. It was accompanied by a chill followed by moderate febrile reaction, the pulse being not very frequent, but full and rather incompressible; so much so at all events, that I deemed it best to bleed her. There was no cough, nor, excepting the pains being aggravated by a moderately full inspiration, any other of the so-called rational symptoms of disease within the chest. Indeed, the seat of the pain taken in connection with the puerperal condition of the patient, rather pointed to the uterus or ovary as the organ at fault; and I did not become aware of the real nature of the attack, until the respiration became impeded, and life seriously endangered by effusion into the pleural cavity.

This patient fortunately recovered after a tedious illness, by persevering in the plan of treatment suggested by the late Doctor Hope, viz.: mercury to salivation, repeated blisters, with nutritious diet, alterative tonics, as iodine, &c.

Since the above case first directed my attention to these anomalous forms of disease, many similar but more fortunate instances have occurred in my practice, in which the ear could readily detect a pleuritis, or pneumonia, in the absence of all, or nearly all, the rational symptoms of these diseases. It is seldom, however, that a case occurs so completely masked and obscure as the following:

CASE 2.—July 8th, 1852, at 8 o'clock A. M., was called to see Gilliam R. Bogert, aged about 60 years, who was awakened at midnight with violent pain in the right iliac region, over the course of the ureter. On the day before he had drunk two glasses of root beer, and towards evening experienced some colicky pains in the abdomen. These pains, which were attributed to the beer, were soon relieved by an evacuation from the bowels, and after eating a hearty supper he went to bed, as he supposed, perfectly well. He had no chills before nor

after this attack; his pulse was natural in frequency, but full, *hard*, and *quick;* skin natural, tongue clean, no thirst, or sign of fever. The pain was referred to the space between the crest of the ilium and the floating ribs, and was constant, with short periods of very slight remission, and rather aggravated by lying on the sound side. Indeed, when I entered the room, the patient was walking the floor with his body bent forward and to the affected side, keeping his hands pressed upon the seat of the pain, and groaning with intense suffering. There was no pain in his shoulder, no tenderness, no cough, no difficulty of breathing, no "catching" pain even on very deep inspiration, no difficulty in flexing the thigh on the pelvis, no retraction of the testicle; but his stomach and bladder were rather irritable, he having vomited and retched occasionally, and passed his urine three times in as many hours.

I was at a loss what to make of this assemblage of symptoms. The entire absence of cough and other evidence of chest disease, led me not to suspect any difficulty there, so that I did not even think of applying my ear to the chest. The seat and character of the pain, with the absence of tympany, satisfied me that it was not colic, while the irritable bladder and stomach, the suddenness of the attack, and its extreme severity, seemed rather to indicate that a calculus was probably impacted in the ureter, in its passage to the bladder. At all events, I could make nothing else out of it, and accordingly began the treatment under the impression that such was the real condition of things.

Having placed my patient upright in a chair, I bled him to approaching syncope. This required eighteen ounces of blood drawn in a full stream, and was followed by immediate and almost entire relief. I then administered a quarter of a grain of sulph. morphia, to be repeated every hour or two, as might be necessary, with four grains of calomel every three hours until twelve grains were taken, to be followed by castor oil. I also ordered fomentations to be constantly applied to the abdomen, and a warm hip bath in case the pain again became severe. The blood drawn from the arm *was considerably buffed.*

At 9 o'clock P. M., patient is greatly relieved, but pain still

so severe as to prevent sleep. Has taken a grain and a half of morphine. The warm bath had thrown him into a profuse perspiration. Bowels not moved; pulse 96, full; skin warm, tongue moist and very thinly coated, no tenderness, no cough, breathing natural. I directed an enema of salt and water, fomentations to be continued, and also the morphine if necessary.

July 9, 11 o'clock A. M., patient has more fever; bowels have acted freely; pain not severe, but still troublesome; no tenderness; stomach and bladder no longer irritable; tongue more coated; pulse 108, full, hard, and quick; skin moist but hot, no cough nor frequency of breathing, pain not aggravated by deep inspiration.

Not being satisfied with my diagnosis, I was prepared to expect the development of some local inflammatory lesion; and to be positively certain that it did not involve the pleura or lung rather than with any expectation of finding such to be the case, I made a careful exploration of his chest. On percussion I detected rather more dulness than natural over the lower portion of the right lung, as the patient was sitting in bed, and on passing my ear over over the part, I was surprised to find unequivocal evidence of inflammation there. The respiratory murmur was feeble, almost entirely suppressed, and over a surface as large as my hand there was distinct crepitant rattle during each inspiration. In short, here was a case of pleuritis which had already involved the lung, and resulted in slight effusion in the chest, without cough or the least frequency or difficulty of breathing, and without the very usual catching pain, even on making a deep inspiration.

I immediately bled my patient again to the extent of eighteen ounces with entire and permanent relief from pain. The blood was still buffed. The bleeding was followed by one sixth of a grain of tartar emetic and a drachm of Epsom salts every four hours, with one of the following powders two hours after every dose, viz:

℞.—Pulv. opii. grs. vi.
Proto. Chlor. Hydrar. grs. viij.
Tart. Ant. et Potas. grs. ij.
Divid. in pulv. No. viij.

July 10. No pain, pulse 88, skin moist, no cough, crepitant rattle heard over less surface, its place supplied by feeble vesicular murmur. Omit the salts and antimony; continue the powders at intervals of six or eight hours.

July 11. Dysenteric symptoms setting in; discharges once in four hours of mucus and flakes of lymph mixed with blood; tenesmus.

℞.—Pulv. Opii.
" Ipecac.
" Acet. Plumbi, ā ā gr. j to be taken after every stool.

It is unnecessary to follow the notes of this case any farther; from this time he rapidly convalesced, and on the 14th I discontinued my visits.

The following case is reported from memory; but its main features, I have no doubt however, are correctly drawn. It is reported because it presented still another element of deception in its symptoms, viz., extreme tenderness of that part of the abdomen to which the pain was referred.

CASE 3.—Mrs. Margaret Doremus, aged 70 years, of strong constitution but considerably worn by hard work, and subject to attacks of a sort of neuralgic rheumatism, had suffered for some days from a cold. She had not been confined from her usual every day work, but coughed a good deal, was feverish, &c.; when on the 11th of December, 1850, she was seized with extremely severe pain in the hypogastric and left iliac regions, accompanied with ague, and followed by high febrile excitement, hot skin, frequent pulse, &c. The abdomen was extremely tender, but I have forgotten whether it was tympanitic or not. The cough, which before this attack was very troublesome and attended with copious expectoration of bronchial mucus, almost entirely ceased, and there was nothing expectorated, or at all events, none of the rust-colored sputa of pneumonia. Indeed there was no cough to attract attention, or no more than is usual in some forms of abdominal inflammation. Her breathing I can say nothing about; I presume, however, that it was but slightly affected, or my attention would have been attracted to the chest.

I treated the case as one of acute peritonitis, with venesec-

tion, calomel and opium, until the 14th, or for three days, when I happened to meet my brother, Dr. M. C. Hasbrouck, in consultation in another case. I invited him to visit Mrs. Doremus with me, which he did. He first detected the real nature of the attack, which was pneumonia, involving the lower lobe of both lungs, in one of which the disease had proceeded to hepatization. The patient recovered with a sore mouth.

The history of these obscure attacks, as far as I have observed them, is generally as follows, viz.: the patient is usually suffering, as in Case 3, from a common cold; that is, he coughs some and feels chilly and unwell, but is not sufficiently indisposed to confine him from his ordinary business. While in this condition, or perhaps without any previous indisposition, he is suddenly taken with violent pain (if the pleura be involved) accompanied with chills, but generally no distinct ague. The pain is usually referred to the iliac region, sometimes to the lower portion of the loins, and in rare cases, even to the hypogastrium, and is generally aggravated by a full inspiration. Sometimes, however, as in Case 2, respiration is entirely unaffected. Cough, if present, is usually less than before the pain was felt. The febrile reaction is generally moderate; occasionally as violent as in an ordinary attack of pleuritis. Besides the pain, interfering somewhat with the full expansion of the chest, there is usually nothing in the rational symptoms, to lead the inexperienced practitioner to suspect any mischief there; and perhaps the persistence of the fever, and the general unsatisfactory progress of the case, will first induce him to auscultate the chest, when feeble respiration, or an entire absence of the respiratory murmur, with dulness on percussion, and perhaps ægophony, will warn him that he has a pleurisy with effusion to contend with; or small crepitation, or even a total suppression of all vesicular sounds, with bronchial respiration, may reveal to him the fact that the lung itself is seriously, perhaps fatally, involved.

If the pleura be not involved, the case is rendered, if possible, still more obscure; then no pain is complained of, and the patient will appear to be laboring under a simple febrile attack, without any apparent local disease; and nothing but a

careful physical exploration of the chest will enable the practitioner to arrive at a correct diagonis.

The following may be taken as a fair example of this class of cases:

CASE 4.—Mr. H—— L——, nearly 70 years old, of good constitution and robust health, was exposed and got wet, in the last week of November, 1851. A day or two after, he was taken with headache, pain and stiffness in his extremities and back, chilliness, lassitude, followed by fever, hot skin and thirst. I first saw him on the 2d of December, three or four days after the attack. He was confined to bed with moderate fever, his pulse beating from 75 to 80 in a minute. His principle, and almost only, complaint was headache. His tongue was slightly coated; bowels had been moved freely with Epsom salts. He had no difficulty in lying in any position; his breathing was natural, and upon *careful inquiry*, I could not ascertain that he had any cough. Indeed, there did not appear to be any particular local mischief, but simply a general feverishness, which I attributed to exposure and suppressed perspiration. Accordingly, I prescribed warm pediluvia, with warm drinks, antimony and nitre, with a view to equalize the circulation, and promote the cutaneous excretion. But my patient did not improve, and on the fifth day of the treatment, while I was sitting by his bed, he gave a short dry cough, that arrested my attention. On inquiry I learned that he had coughed three or four times during the preceding day, but not previously. He had no pain nor shortness of breathing, but from the unsatisfactory result of the treatment, I suspected that there must be some local lesion which I had not yet detected. I placed my patient upright in bed and carefully examined his chest; and in the lower portion of his right lung, I found unequivocal evidence of pneumonia, still in its first stage. The respiratory murmur was partially suppressed, and distinct crepitant rattle existed in a part of the lung about three or four inches in diameter. There was no perceptible dulness on percussion; but this I believe is not unusual in the pneumonia of the aged

I immediately established counter irritation over the seat

of the disease, and prescribed tartar emetic in solution with the muriate of ammonia, with the most prompt and happy effects; the patient rapidly recovered.

This paper has already reached too great a length, or I would add a word or two of testimony in favor of this last mentioned most excellent article of the Materia Medica. In certain states of the system, and in some forms and stages of the inflammatory affections of the air passages, and also in some other diseases, it is one of the most admirable alteratives we possess, and one that is entirely too much neglected by the majority of American practitioners.

ART. III.—*A Case of Osteo-Aneurism (?) occurring in the Os Calcis; Amputation and Recovery.* By W. PARKER, M.D., Professor of Surgery in the College of Physicians and Surgeons, New-York.

IN an article on *Pulsatory Tumors of Bone* in the last number of the *N. Y. Journal of Medicine*, by Dr. C. D. Smith, allusion is made to the following case, which occurred in my practice. A similar case occurred at the Emigrant Hospital, under the charge of Dr. Carnochan, and by him was published, with a resumé of the subject, in the *N. Y. Medical Gazette* for January, 1853. Of these three cases, which comprise, I believe, the experience of the profession in this city, in regard to this form of disease, my own remains unpublished. I wish, therefore, to place it on record as a contribution to this subject, the history of which has already been creditably given in the papers above referred to.

The patient was an intelligent physician, Dr. Wm. Werden, of Salisbury, who drew up the history of his own case, at my request. The appearances of the morbid specimen have been mentioned by Dr. Smith. At the time of writing his case, the doctor was in the enjoyment of good health; I have more recently learned that he is again on the decline, with well marked symptoms of an advanced stage of pulmonary disease.

CASE.—In the summer of 1842, while jumping for recreation, I struck my left heel upon a round stick, about an inch in diameter; it gave me severe pain at the time, which, how-

ever, lasted but a few minutes, and I thought no more of it. Several days after, upon rising from my bed in the morning, I experienced a sharp pain darting through my heel, which quickly passed off, but recurred again on the following morning in the same manner. This transient pain continued to return every morning on assuming the erect position, until the summer of 1847, without the occurrence of any other symptom, such as swelling or tenderness, to indicate the nature or seat of the difficulty. This pain invariably returned on rising to my feet, after resting some time in the horizontal position, but never continued to exceed one or two minutes. During this period, my heel gave me no uneasiness, my general health was good, with the exception of some dyspeptic symptoms for two or three years after the injury, which I attributed to sedentary habits, being then a student, and which passed off after engaging in practice.

In the summer of 1847, I began for the first time to experience a tenderness about the heel whenever it came in contact with solid substances with more than ordinary force, as in stamping or making a misstep. This tenderness gradually increased until I began to suffer some pain in walking at my usual pace, unless I was careful to slide my foot along without raising it but slightly from the ground. There was no appreciable swelling until December of that year, when upon drawing on my boot one morning I suffered so much pain that I was obliged to withdraw it immediately. During the day, the heel swelled considerably, and being hot and painful at night, I scarified it deeply and held it in warm water to favor the bleeding. On the following day, I was disappointed at finding my foot still worse, and was obliged to use a crutch in walking. Leeches and poultices were applied and subsequently iodine and other medicinal applications were employed, but without even palliating the symptoms. Nothing but cold water and snow gave me even temporary relief; these were very grateful and I resorted to them often, as the relief they afforded enabled me to attend to my business, though I suffered much pain night and day. I continued to grow gradually worse, until some time in February, 1848, when I determined to consult Dr. Parker. At this time there seemed to be thicken-

ing of all the tissues about the os calcis, with a deep seated, constant pain, as if the fibrous tissue was put upon the stretch; occasionally the pain was lancinating.

Dr. Parker advised an incision down to the bone, which he accordingly made, dividing the periosteum of the os calcis about an inch and a half on its inferior surface; the wound bled freely and gave a little relief to the severity of the pain, but of short duration. I kept the wound discharging four or five weeks, but finding no material benefit, allowed it to heal. Soon after this I applied moxas, by the advice of Dr. Ticknor, U. S. N., but with no benefit. The pain continued to increase in severity, being worse at night than during the day. I resorted to large doses of morphine to obtain sleep, and often two grains at a dose would produce only a short nap, from which I would be awakened by the most excruciating lancinating pains in the heel. I finally began the use of quinine in the summer of 1848, as I was beginning to emaciate and lose my appetite, taking eight grains per day, with cold applications to the affected part. Under this treatment my appetite and general health improved, and also the local difficulty; the pain was much less severe, and in a short time I threw aside my crutch, still continuing my practice, and got around very comfortably with a cane. This improvement lasted until December, 1848, when I had an attack of acute bronchitis, for which I was bled and took antimony, and of course omitted the quinine. I was confined to my bed about ten days, and in this time the pain in my heel became worse; on getting up I discovered for the first time, a tumor on the outer aspect of the heel, just below the external malleolus, which had a spongy, elastic, and pulsating feel, and was painful on pressure; the veins were much enlarged about the heel. I again resorted to the quinine, from which I had derived so much benefit, but it now gave me no relief.

I grew worse so rapidly, that I again visited New-York with the intention of submitting to amputation, if this course was deemed advisable. I had come to the conclusion that I could not much longer survive such indescribable agony (I will not call it by so soft a name as pain). Dr. Parker advised immediate amputation, to which I cheerfully assented.

He performed the operation on the 24th of January, 1849, after administering a mixture of chloroform and ether. I resumed the practice of my profession about three months after the operation, and have continued actively engaged since, in the enjoyment of good health. I have supplied my deficient extremity with an artificial limb, which answers its purpose admirably.

ART. IV.—*Case of severe injury of the Spine; Paraplegia; Amputation of both Thighs; Recovery.* By WILLIAM D. PURPLE, M. D., of Greene, Chenango County, New-York.

L. N. J., of Smyrna, in this county, at the age of 22 years, received an injury from the fall of a limb from a tree, which he was in the act of felling. The limb was a large one; it struck him on the back part of his head, laid the bones of the occiput bare, and spent its force upon the shoulders. It produced a severe injury of the spine, and was called a dislocation of the fifth and sixth dorsal vertebræ. A complete paralysis of all portions of the body below that point was the immediate result.

The precise nature of the injury or the treatment to which he was subjected cannot now be ascertained, as it occurred in Virginia in 1845. He, however, soon recovered his usual health; the wound on the head proved merely external, and the soreness of the injured spine soon abated. A perfect paraplegia was the consequence of the injury; all the nerves of sensation and motion below this point were completely paralyzed, and never in the slightest degree resumed their functions. The abdominal and pelvic viscera, so far as their manifestations could reveal, were entirely beyond the control of volition, nor was there the least evidence of sensation or muscular action. The digestive mass moved regularly, but involuntarily.

The skin of the whole body below the injured part possessed not the slightest sensation, and the line of demarcation between the sensible and insensible parts was so definite, that it could be covered with a thread. Not the slightest

trespass of the nerves of sensation could be detected over this line into the domain of the palsied part.

The vital and animal functions of the whole system were normal. The respiratory and organic nerves were retained in all their integrity. The sympathetic or ganglionic nerves were uninjured. Respiration, circulation, digestion, secretion, and assimilation were performed in all their perfection. There was a sensible increase of the frequency and volume of the circulation, and respiration was noticed to be slightly increased in frequency from the normal standard. The weight of the body was greater after than before the injury, and the lower limbs retained their normal heat and physical development.

The patient evidenced an unusual share of mental vigor after the injury, and possessed a resolution and determination that was truly surprising in his forlorn and helpless condition. He travelled almost constantly, and spent nearly all his time upon his back in his carriage. He threw himself into the arena of excitement, and for years was a votary at its shrine. Where there was the greatest crowd, there he chose to be. The travelling circus or the military parade, usually found him in their midst.

In 1851, six years after the injury, he presented himself to our County Medical Society, and requested the amputation of his lower extremities. He insisted upon its performance with his wonted resolution and energy. His reasons were that they were a burdensome appendage to his body—caused him much labor to move them, and that he wanted the room they occupied in his carriage for books and other articles for peddling. These reasons were not sufficient to induce a majority to consent to an amputation, as, independent of the horrors of so extensive a mutilation for such reasons, there were fears that the vitality of the vegetative existence enjoyed by his limbs was such as might endanger a healthy healing process.

The patient, nothing daunted by our reasoning, firmly resolved to cast off the offensive limbs as a useless burden on the rest of his body, sought other counsel, and succeeded in getting his wishes gratified. Both limbs were amputated near the hip joint *without the slightest pain or even the tremor of a*

muscle. The stumps healed readily, and no unfavorable symptoms occurred in the progress of a perfect union by the first intention. In this mutilated condition he was unable to move his pelvis in the slightest manner without the greatest effort by the aid of his hands.

He then resumed his former wandering life, and travelled over this and portions of the adjoining States until May, 1852, when he was arrested in this village by his last disease, which suddenly terminated his life.

He died with all the symptoms of disease of the digestive functions consequent upon his bacchanalian propensities, to which he had been strongly addicted since the injury. He was very excitable, and the smallest quantity of spirits irritated the brain to the utmost frenzy. His irritable characteristics were unbounded, and although he was in the most helpless condition, he was converted from a man of a mild and amiable disposition to one of the most irritable of the human family. His energy, his force of character, and his mental powers generally were very much increased by the narrow limits in which his sentient powers were confined.

The foregoing case is interesting to the physiological student in the following particulars:

1st. It demonstrates numerous facts illustrative of the views of Sir Charles Bell, as presented in his "Exposition of the Natural System of Nerves," and many other modern authors, and clearly proves the independence of the great sympathetic or ganglionic system of nerves as exclusively presiding over the organic and involuntary functions, including the heart, arteries, and the chylopoietic viscera, and that it seeks not the least aid from the other distinct and independent systems of nerves.

2d. That the sentient and motor nerves, rising as they do from the spinal column, in juxtaposition and included in the same sheath, renders it hardly possible that the one can be injured without the other sharing the same fate. Hence their destruction is concurrent and not dependent on each other.

3d. That the destruction of the medulla spinalis, even as high as the fifth dorsal vertebra, does not necessarily produce death, as the great sympathetic nerve and the par vagum will

sustain perfect organization and respiration when all below that point has not the slightest sensibility or motion.

4th. That the want of sensation, and motion, in a given part, does not necessarily deprive it of any portion of its organic life, but that it may be maintained in all its integrity;—that secretion, nutrition, and even the delicate process of granulation and union of integuments, may be perfect in the largest amputations.

5th. That the peristaltic action of the bowels is either entirely independent of the sentient and motor nerves, or that it forms no part of the motive power that moves the digestive mass.

6th. That excitability is increased in proportion to the diminution of the sentient surface over which stimuli are extended: hence, the more this system is maimed and its vitality circumscribed, the greater will be the influence of stimulants presented to the remainder.

ART. V.—*Report of a Case of Idiopathic Periostitis with apparent Metastasis; Death on the fifth day.* By B. OBLENIS, M. D., Rockland Co., N. Y.

A REPORT of the following case may be interesting, not on account of its unusual nature, or progress, but because of the rarity of its occurrence; so rare indeed, that generally it may not occur more than once or twice, and perhaps in some instances not at all in the course of quite a long and extensive practice. Not having taken notes of the case, this report of the symptoms, progress, treatment, &c., is drawn from memory, and is therefore necessarily but a general outline, and perhaps somewhat imperfect.

CASE.—The subject of this case was a boy about four years of age, possessing a constitution ordinarily sound, perhaps slightly scrofulous. Until about noon of the day on which he was attacked, he had been running about, enjoying his usual degree of health, when, suddenly, and without any apparent cause, he complained that he could not walk in consequence of pain in the distal extremity of the leg, and in the ankle.

Dr. C. Hasbrouck, passing at the time, was called in. On

examining the affected part, he discovered some tenderness, on pressure, about the joint, which was slightly swollen; the pain which was felt higher up in the limb was unaccompanied by tenderness when pressure was made. From the appearance of the part the supposition would not have been unreasonable that this condition might be the result of a strain; but the patient himself was not aware of any thing which could have produced it, either at the accession of the pain, nor at any time previously; neither did it appear to be the result of rheumatic inflammation. A diagnosis was not made.

Two days after I was called to see him. The pain, etc., had continued about the same as it was when first seen, until the evening before, when it increased very rapidly, and soon became so intense as to be almost unbearable.

It was not at this time confined to the part first attacked, but had extended up the leg as far as the knee; it appeared to be deep seated, and of a tense, stretching character; the leg was also very slightly swollen. There was no tenderness on pressure; pulse had become quite rapid; I believe 120 to 130 in the minute; skin rather warmer than natural; tongue very slightly, if at all, furred.

On considering this assemblage of symptoms, it appeared evident that the difficulty concerned the inner structures of the limb, and from the fact that there was no tenderness on pressure, that it must lie deeper than the muscular structure. There was no doubt that the disease was inflammation, and that this inflammation was seated in the periosteum of one or both bones of the leg.

On the following day, the leg was considerably swollen; there was a slight bluish red discoloration, and it was quite tender to the touch; the constant pain which he felt was extremely severe, notwithstanding the large and frequent doses of morphine which constituted a part of the treatment; pulse very rapid, 140 to 151; skin hot and dry; tongue moist and covered with a white fur. On the third day of the disease, the leg was found to be still more swollen; the bluish red discoloration appeared to have increased, although the tinct. iodine, with which it was painted over, made judgment in regard to this point rather difficult; pulse about the same in

frequency, but weaker; otherwise the symptoms continued the same as at the previous visit. During the next two days, he passed gradually into a half comatose state, scarcely answering when spoken to; and towards the latter part of this time, could with difficulty be roused at all; his pulse gradually became more frequent, and less both in force and volume. A slight swelling was observed around the lower jaw. On the fifth day, he suddenly began to sink; his pulse becoming more rapid, small and weak; skin cool. The leg had also gradually diminished in size, during the day, until it became as small, or even smaller than the other. The swelling, which was observed about the lower jaw the day before, had greatly increased and was extremely painful; the skin was also slightly discolored. This swelling was immovable, and appeared to be attached to the bone; it possessed the same characteristics as that which had previously attacked the leg, and the development of it, being simultaneous with the disappearance of the inflammation of the leg, it would appear as though there had been a metastasis.

He died during the night of the fifth day. The treatment pursued was alterative, sedative and anodyne; anodynes especially, were given in large quantities, for the purpose of allaying the absolutely intolerable pain from which he suffered. The particular drugs principally used, were calomel, tart. emetic, or ipecac and morphine. On the last day, when he began to sink, I think he took nothing excepting quinine. On the first day, the only local application to the limb, consisted of cloths wet with a solution of acetate of lead. On the second day, Lugol's solution of iodine was directed to be painted over it, and then covered with cloths wet with the solution as before; this was continued throughout.

This is a disease which appears not to be treated of very frequently by writers, either on surgery or medicine. I have examined a number of works from which I hoped to obtain information, regarding the symptoms and mode of treatment of this disease, but without success; we were, therefore, thrown upon our own resources, without any guide but general principles and our own judgment; and whether the treatment

was according to established usage or not, is a question we could not decide.

ART. VI.—*Gangrene of the Foot and Leg; Amputation during progress of the Disease; Recovery.* By WILLIAM BRODIE, M. D., Surgeon to St. Mary's Hospital, Detroit, Michigan.

CASE.—M. Hickey, aged 34 years, by occupation a laborer, was admitted into St. Mary's Hospital September 12th, 1852, suffering from gangrene of the foot, extending upwards also upon the leg. On his admission, the foot presented a dark blue appearance, which shaded lighter as it extended upwards on the leg. The foot was icy cold and swollen, with a serous effusion under the skin. The leg, up to about three and a half inches below the tuberosity of the tibia, was also cold, but less so than the foot. The patient complained of much pain, describing it as that of distention. Endeavors were made to restore warmth to the leg and foot, but with no avail; tonics and stimulants were freely given, yet the patient became much reduced. On the sixth day, incisions were made in the leg, which relieved the distention; the foot now became of a dark green, the leg also was much discolored.

Upon the tenth day, the cuticle of the foot began to separate, and a faint line of demarcation appeared about three inches below the insertion of the ligamentum patellæ. The patient was now sinking fast, and as a *dernier resort*, amputation was performed upon the twelfth day after his admission. I proposed this to Dr. Pitcher, physician of the hospital, and who had kindly placed the patient under my charge, not that I anticipated a cure, but as the only remaining chance. He coincided with me. Assisted by Drs. Pitcher, Terry, Davenport and Christian, I proceeded to the operation. Judging from the appearance of the skin below the knee, and above the faint line of demarcation, that the amputation could be performed below the knee, thereby saving the joint, I proceeded accordingly. Upon carrying my incision down to the bone, I found it surrounded with pus, and the muscles were of a gray color. This condition extended to the knee. It was then thought best to make the next incision six inches above the knee, which was accordingly done, but the patient

was so much emaciated, and the muscles contracted so much, that the bone was cut off nearly six inches above the first external incision on the thigh. The stump was then dressed and warm applications applied; a portion of stimulus together with a full dose of opium was also given, and the patient put to bed. The general treatment was tonic, until the patient was discharged, the stump being healed; this was January 9th, 1853. To-day, March 24th, I saw him and found him quite hearty, indeed he is more robust than ever in his life before. During the operation, the patient was under the influence of chloroform.

It is at all times difficult to obtain a clear statement of symptoms previous to admission into a hospital, from the class of patients who are generally sent there, as they are mostly uneducated. From information of this patient and his wife, we learned that some ten days before his admission into the hospital, he was seized with a chill while at his work, and which continued for some days, with slight intermissions. A physician was called in, who treated him for intermittent fever. About the second day, he began to feel a numbness of the foot, extending up the leg, with slight pain; this continued to increase, when he was recommended to enter the hospital, where he was first seen by Dr. Pitcher and myself.

An examination of the amputated leg revealed the cause of the mortification. The distal third of the popliteal artery, together with the anterior and posterior tibial arteries, were filled with coagulated blood and fibrin, very compact, and closely contracted upon by the arteries; the middle third of the popliteal was empty, contracted, and its inner coat highly inflamed, the inflammation having extended near to the femoral portion.

The primary cause of mortification in this case was, as revealed by examination, arteritis. Whether this inflammation commenced as low as the foot, I could not satisfy myself, but think not. The chills, or more properly *rigors*, mistaken for those of intermittent fever at the outset of the disease, were symptomatic of the local inflammation.

This case is interesting, more particularly in its sequence, as

being one of a few in which surgical interference proved beneficial.

Sir Benjamin C. Brodie, says (*Surgical Lectures*, p. 66), "It has been a sort of *dictum* of the schools of surgery, that we should not amputate while mortification is going on; and certainly, when there is mortification from ossified arteries, or where there is mortification from inflammation, we ought to wait for the mortification to be stopped, and for a distinct line of separation, before we proceed to operate. But it must be palpable to every body who has taken pains to consider the subject, that this rule would not apply to all cases of mortification."

Further on he adds, quoting Baron Larrey, "when the mortification is from local injuries, we may venture to amputate, though the mortification is still spreading, but I apprehend that the operation must be had recourse to at once, and that the case admits of no delay; and if, in consequence of local injury to a limb, mortification has commenced, but has not produced any severe *shock* on the system, then you may amputate; but when the mortification has been going on for several days, so that the *system* has *begun* to be *influenced* by it, the pulse getting weak, perhaps intermittent with great *prostration* of *strength*, in such a case you *must not venture to amputate;* under such circumstances it is probable that the system is not in a state to bear the additional *shock of the operation.*"

The above is the general opinion of all writers on this subject, and also the expressed views of medical teachers. The case in hand, in its results, differs widely from this; at the time of operating, the patient was *sinking* with an *intermittent pulse.* Yet he has recovered. I give it as my opinion that this result was nearly, if not quite, due to the anæsthetic influence of chloroform, thereby enabling the patient to bear the shock of the operation without further debility. I am so thoroughly convinced of the beneficial effects of anæsthetics administered during operations, that I never, if possible, operate without them; and even if the patient is a strong-minded individual, scorning the thought that *he* cannot bear the operation without a groan, yet he loses immeasurably.

When the period of excitement has passed over, an irritative fever sets in, and he dies, or his recovery is tedious. I therefore advise the use of anæsthetics in all operations of any magnitude, involving loss of blood, or length of time; and even in some of those called trifling, if the patient is excitable, provided its use be not contra-indicated by organic disease of the heart, lungs, or brain. I have yet to see any injurious effect from their use, especially if administered by my friend Dr. Z. Pitcher.

ESSAYS AND SOCIETY REPORTS.

ART. VII.—*On Syphilitic Mucous Tubercles, Secondary Syphilitic Affections of the Os Uteri, and Hereditary Transmission.* By ISAAC E. TAYLOR, M. D., one of the Physicians to Bellevue Hospital, etc., etc. [Read before the New-York Society of Medical Inquiry.]

DURING the years 1842, '43, '44, when I had charge of the diseases of females subject to syphilis and eruptive diseases, in the female department of the City Dispensary, and where a large number attend during the year, laboring under these affections, several interesting cases presented themselves to my notice of infantile syphilis, where the mother denied ever having been affected previous to her marriage or during marriage, and on whom secondary mucous tubercle or consecutive ulcer exhibited itself on the neck of the womb. Previous, however, to referring to these cases, numbering in all only seven, I would offer a few remarks on the syphilitic mucous tubercle as being a primary symptom, attested as such by inoculation; then show its rise and evolution, and adduce some facts relative to the manner by which the system of the female is contaminated by the male.

Few, in fact, I believe, make mention of the syphilitic mucous tubercle as a primary symptom in syphilis, except Ricord, and that only slightly; and here I would not wish to be understood as referring to that form of tubercle to which Willan and Bateman have given the name of tubercle; such as tubercle of the skin, or even that form of cutaneous syphilitic tubercle; but to that species of tubercle situated on the mucous membrane. By syphilitic mucous tubercle, or *muqueuse plaque*, is meant a syphilitic symptom, marked by slightly raised edges, more or less reddened, of a round form, or very slightly elliptical, covered by a fine pellicle resembling a thin mucous membrane, having its election

in the neighborhood of the outlets of the body, especially around the genital organs and the anus, the buccal membrane, nose, ear, corner of the lips, mouth, amygdalæ, umbilicus, and uterus, which tubercle, when in a state of ulceration, is called rhagades, and condylomata, when chronic and elevated and producing an acrid serous discharge.

The frequency of the mucous tubercle is very great; in truth, one half, if not more than one half of the syphilitic cases in females, are or become mucous tubercles, as every one knows who has seen much of females subject to syphilis, for their genitals are covered with them; and here we have the corroborative testimony of Colles, who terms them moist raised ulcers, that while spots of ordinary venereal eruption so generally fix upon the pudenda of the female and then degenerate into moist raised ulcers, we see very few spots of venereal eruption on the male organs of generation; and those which are found there retain the characters of the general eruption, and indeed we may say are usually of the scaly nature or else indurated chancres.

The mucous syphilitic tubercle takes its rise in a similar manner as ordinary chancre, from a small vesicle; thence passing to a pustule, lastly becoming ulcerated, but which ulceration is of a superficial character, and spreads to the size of a sixpence or five cent piece, and having progressed to a certain point ceases its ulcerative action, and undergoes at this time what Ricord would term, as respects ulcerated chancre, "transformation in situ," and which, when little more advanced, Evans has termed "ulcus elevatum;" and it is at this stage that the transformation, which is the most interesting period, shows itself more marked, and undergoing its specific changes, which, when accomplished, bears the name of mucous tubercle. This change not taking place earlier than the fifteenth day, varies from the fifteenth to the twenty-first day, and as MM. Devasse and Devilliers, in the *Archives Général de Medicine*, for 1842, have given so succinct an account of this process, and the only gentlemen who have, and which corresponds to my own experience, I shall not hesitate to quote them. "Its surface, which was of a grayish appearance, begins to spring up around the circumference, and becomes of a reddish or rose color from the circumference to the centre, so that the centre is still of a grayish color and slightly depressed; at the same time while we perceive the areola or reddish circle becoming more and more manifest, and of a more sombre hue, we notice the centre tumefying slightly, and forming with the circumference a smooth peripheral disc, regular and of a violet color, beginning to jut very little above the level of the skin, and with a centre still slightly depressed; and this projection, when completed, is not above the sixteenth part of an inch. This process pro-

ceeds at the same time that the cicatrization of the ulcerated chancre goes on, and there results from it a more projecting disc, which is covered by a fine pellicle; sometimes the ulcerative stage is not fully and perfectly completed, and sometimes the pellicle is not observed at the time of the elevation of the areola, and the bottom of the chancre is still depressed and grayish; and it is at this stage we perceive the diagnostic size laid down by Ricord is noticed, which is the jagged edge and which exists at the circumference of what would become a mucous tubercle, and which only indicates the trace of a primary ulceration. At last the ulceration and cicatrization continue to proceed from the circumference to the centre, disappearing little by little, and there results granular ulceration covered by a thin and fine membrane, having arrived at the full stage of a developed mucous tubercle." And here I would remark that it is in the early stage, previous to *pus* having been noticed or formed, that if the virus is taken, and, as I have seen in several instances, inoculation is instituted, a true Hunterian or classical chancre will be produced, though it may not follow in all cases; and therefore all we can say in the present state of investigation is that certain non-chancrous looking ulcers, equally the result of sexual intercourse, yield a characteristic pustule or classical chancre, and that it is not absolutely necessary we should have an inductive chancre to produce a Hunterian or classical chancre. My impression, therefore, is, that by not discovering or perceiving this rare form of ulcer, which is exceedingly rare, the other varieties of ulcers observed in syphilitic patients are rejected, because they do not possess the true legitimate characters of chancre, whilst we have ocular demonstration that secondary symptoms do follow the superficial chancre."

Having given the description of the mucous tubercle from its origin, through its evolution to its completion, and shown its frequency, I shall next refer to the granular ulceration of the neck, as described by M. Gibert, in his essay "*Remarques Pratiques sur les Ulcérations du col de la Matrice*," who says, "There is a lesion of the os uteri which merits special attention, although not of the grave nature—(by grave nature, M. Gibert has reference to the destructive character of some syphilitic ulcerations)—which some persons have supposed. This is a species of ulceration which I have termed "erosion granulé du col de l'uterus." This disease differs from chancre properly so called, and to give an idea of its frequency, he says that out of 500 cases of disease it was observed 143 times. In some of these the erosion existed alone, without any combined symptom, and with a few no leucorrhea could be observed, with others only a slight mucous discharge; 15 offered no other morbid symptom; 18 presented chancres; 24 mucous tubercle; 11 buboes; 10 consecutive ulceration of

the amygdalæ, mouth, and pharynx; 10 rhagades; 6 vegetations; 11 syphilis; 8 blennorrhagia.

With the exception of 15 of these 143, the patients affected with granular erosion of the uterus presented more or less distinctly the other symptoms of syphilis. This granular erosion, as Gibert says, is rather superficial, and is generally of a round form and circumscribed, occupying the anterior lip sometimes, and sometimes the posterior of the os uteri—occasionally both; and still more rarely it seems to penetrate the canal of the cervix. Its surface is granular and red, contrasting with the actual smooth surface of the neck, and bleeds when slightly touched. It is very rare for the ulceration to acquire any great extent. On this point I would remark, I have seen five or six vesicles springing up, uniting together, and which passed into ulceration, and presented the whole neck in a state of granular ulceration. The cure will generally take a considerable time. Stimulating applications do not appear to be of much use, and more than once the application appeared injurious.

I have referred above to the description of the granular syphilitic ulceration, as described by Gibert, showing its frequency, its round form, and its character, its rise and its difficulty of cure by the active applications and the latency of it; and a minute of 50 cases noted by myself at one sitting during a visit to Blackwell's Island in 1846, taken indiscriminately, and which gave out of these 50 cases—gonorrhœa, 6; granular vaginitis, 11; mucous *plaque*, or tubercle, 1; secondary syphilis, 4; granular erosion of the neck, 13; chancres, 13; papular vaginitis, 1. MM. Devasse and Devilliers, out of 186 cases of mucous tubercle, gave 174—anus, 59; perineum, 40; inside of the thighs, 38; tonsils, 19; ear, mouth, throat, and on the neck of uterus, 1; umbilicus, 1. It will be seen that the cases of Gibert and my own were in an early stage, when the symptoms had existed only a few days.

Dr. Bennett, in his last work on diseases of the uterus, says that in 1843, while in charge of a female skin ward of seventy-five beds, in which there were always a great number of syphilitic skin diseases, he examined with the speculum, and was led to adopt this course:—"by finding an injury, that several of these patients who presented no syphilitic disease of the genital organs, except trifling leucorrhea, so slight that they had not, however, paid any attention to the symptom, were laboring under the symptoms which I have enumerated as indicating slight inflammations and ulcerations of the cervix uteri." On examining these latter patients, he found the cervix ulcerated and slightly indurated, and to his great surprise he found three out of four—perhaps more—primitive ulcerations of the cervix, and most of those patients were young women who had either never borne children or had been confined several years

previously, and were under treatment for syphilitic psoriasis, lichen, &c. The question next propounds itself to Dr. Bennett—"What was the nature of these ulcerations? Were they syphilitic, modified chancres, or secondary ulcerations; or were they merely inflammatory?" Some he says were large, some small, some had a well-defined margin, others not; some with unhealthy granulations, some with healthy granulations, and some again with a kind of pseudo-membranous fili. And the conclusion Dr. Bennett comes to is, judging from the appearance, he could discover little or no difference from the ulcerations described in non-syphilitic patients, and he therefore is "inclined to deny their general syphilitic nature."

It will be perceived how the general features of the history that Dr. Bennett gives of this form of ulcerations and the general characters are allied to the description we have given, and how erroneous, we believe, is the conclusion he has aimed at; and further, as he alludes to the experiments of Ricord, (Vidal, de Cassis and Acton,) "that inoculation with the *pus* from non-chancrous looking ulcerations of the cervix in syphilitic patients never gave rise to chancres." It will appear evident that Dr. B. has lost sight of the law of morbid poisons, which seems to require the presence of the specific ichor in the discharge that is secreted, in order to render it infectious. If it becomes purulent, it loses its effect, and it is on this ground that the validity of Ricord's experiments has been questioned. Now, as respects the treatment: "In all the cases which have come under his care, the venereal symptoms were treated at the same time as the uterine;" it therefore appears incongruous or incompatible to suppose that patients laboring under primary, secondary or tertiary syphilis should present "merely inflammatory ulcerations on the neck;" and Ricord was himself careful how leeches were applied to the neck, fearing they might become chancres; thus creating a doubt of the possibility of a simple inflammatory ulcer, in a constitution contaminated by the venereal poison; and I am happy to add the testimony of the reviewer of Dr. B.'s work, who remarks, we believe, not only with M. Gibert, "that there are erosions, but several other varieties of ulcerations of the neck of the womb, which have not been described, and are the results of syphilis."

From the evidence adduced I believe that the granular ulceration of Gibert is a primary initiatory step from the superficial chancre or elevated ulcer of Evans, and which would, if permitted to remain for a sufficient length of time, pass into mucous tubercle, and, as Gibert admits, that, with the exception of fifteen cases, there were more or less symptoms of secondary disease, and that it was strongly disposed to latency. Having reverted by comparison to the frequency of this dis-

ease in its primary stage, I will more particularly refer to those cases which have occurred under my own notice, of a secondary character, and especially those cases where the system of the mother has become tainted or inoculated with the syphilitic virus, either through the fœtus or the semen of the father; and on this point I will again refer to M. Gibert, Blatin and Nivet, and Devasse and Devilliers, for cases illustrating this point. In the Hospital of Paris devoted to syphilis, four cases present themselves where the mother is admitted solely on account of the disease of the child; therefore these cases must be few, as the recital of them already by Gibert and Devasse would show. I would here premise that the form of ulcer or mucous tubercle I have reference to, is nearly the same as described by M. Gibert, except that by freely touching it, it does not bleed, and has the appearance of having been located some length of time—round, rose color, slightly elevated, free from discharge, no pain or uneasiness, and would not be sought for from any symptom which it would of its own accord produce; but is produced in the same manner as in the other portions of the system, and showing itself on the neck of the uterus. It has been noticed in the mother in five out of seven of the cases of secondary syphilis in infants. One of the six was in an unmarried female, who was to all appearances free from disease, except a tubercle on the lip and ear, aged 19 years, and which, from her account of the time, she had syphilis two years previously.

CASE 1.—Rosalie Sutter, Feb. 27, 1843, aged 22; born in Ireland; married five years; has had three children; two died; the first still born; had been dead some days prior to its birth; a girl; the skin was peeled off from its bowels; nothing else was noticed; the second child died when it was thirteen days old; at the full period the mother had easy labors. The child which came under my notice was sixteen months old, and had condylomata or tubercles on the crease of the buttocks, a little anterior to the anus, and on the right labium; has no discharge from it; mother was seventeen years when she married, and six months after marriage had sore throat, but which lasted only seven days; the eruption made its appearance three months afterwards all over her, except the face, and was of the pustular form, and lasted three to four months, which was treated by mercury, and thus accounting for the last child having the disease so slight at the time I saw it; says she never had connection with any man previous to her marriage, but that her husband admits that he had chancre a year and a half before his marriage.

On examination, the os uteri was found large, and had a circular, reddish tubercle on the neck, of a quarter of an inch in diameter, and a very slight glairy discharge came from uterus.

CASE 2.—Mary French, Feb. 28, 1843, aged 22; married four years; one child died at four months; no miscarriages; has been separated six or seven months from her husband; had an eruption on the right shoulder and under the left arm, on the chin and the anus; has never had sore throat, but complains of pain in the forehead, more in the evening than morning; has pains also in the limbs, but very much in small of back; has had the eruption five months; came out two or three weeks after the child was born; had a slight discharge from vulva and suspected her husband, and noticed marks of an eruption on his arm and chest; the child had an eruption on its face, chin, arms, and the genital organs; child born plump and fat, and, to appearance, healthy; one month old when it had the snuffles.

On examination of the mother, no discharge from vagina; os uteri, to the extent of a quarter of an inch around the neck, covered with ulcer, round, smooth, and elevated, rose color, and contrasting with the natural appearance of the other portions of the neck.

CASE 3.—A. Mantel, March, 1844, presented herself for an ulcer on the nipple; states that she has nursed the child for four weeks; but has noticed an eruption around the buttocks, on the inside of the thighs, which would occasionally appear and disappear. On examining the child, a scaly eruption is perceptible on the inner part of thighs and anus; spots here and there over the body; slight snuffling; no condylomata around the anus; the ulcer was the size of a small five cent piece; irregular, uneven, and slightly elevated edges, and situated on the left nipple; has no pain; at this visit the child was treated by mercury, and the nurse only by weak stimulating applications; one month afterwards the nurse returned, having given up the child, and presented herself with copper-colored spots on the anus and thighs, and the vulva presented a tuberculated condylomatous appearance; by the use of the speculum granular erosion was noticed on the neck.

Gibert says, under consecutive syphilis a woman had borne six children, of whom three were born prematurely and died; and two, though born at full time, died soon after with venereal ulcers; while the last had a chancrous ulceration of the ear. She denied ever having had any symptoms of the disease, though she knew her husband had had several venereal affections in his younger days. An examination discovered red granulations on the os uteri without any discharge.

Another offered vegetations which were effaced during the accouchment, and a few months later a secondary ulcer was noticed on the neck while under our care; and a third female having a granular erosion, without any other symptom, was accouched of an infant in whom was developed a pustular syphilis. In the case of Devasse, the female pre-

sented herself for a discharge from the vulva at the Loucine Hospital; said she had daily connection with a man whom she knew had no disease, and only perceived the discharge in herself; she denied having had chancre. On examination, three small chancrous ulcerations are perceptible; vagina a little red at the superior part, a slight whitish discharge from uterus, neck of the uterus perfectly healthy; inoculated from the chancrous ulceration, and three days after a true pustule sprung up on the thigh; and on the eighth day after treatment the chancres were nearly healed. During this treatment, on the 4th day of August, a second specular examination was made, when there were perceived two small plaques, reddish, or of a greyish red, round, well defined, and circumscribed, size of a large spangle, or lentil, smooth surface; one on the inferior, one on the superior. On the 6th August a new tubercle showed itself on the superior lip. Mr. Whitehead, in case second, in his last work on the Transmission from Parent to Offspring (1852), says, "the husband had primary syphilis six months before marriage, from which he recovered and appeared in perfect health at the time of marriage. Three months after marriage he first showed symptoms of secondary syphilis, consisting of sore throat and a free eruption of syphilitic roseola. It was, however, before this external development of the syphilitic poison, when he was to all appearance perfectly well, that the indications of the poison were visible in the wife, two months after marriage, with a syphilitic eruption and patches of excoriation about the vulva, with a painful discharge."* That the disease in its primary form not only may exist on the os uteri, as the case quoted from M. Devasse shows, and that it would not have been discovered had not a second examination been made, when a true mucous tubercle was perceived forming under his eyes, unbeknowing to him; and the case of MM. Blatin and Nivet, where only a slight granular erosion was perceptible; and supposing that it was of very little avail, produced its characteristic influence on the young pupil, and that even in its secondary effect was by chance noticed by Gibert as forming also under his own eyes, as his words state. Now, in the cases offered by myself of the secondary form, how long they existed I am unable to say in the five cases, but in the sixth case of the young unmarried female it had I presume existed for two years, as it was two years previous to my seeing her that she had had the primary symptoms, and had supposed herself perfectly cured, and did not presume there was any disease on the uterus; and in the case where the mother's nipple was affected through the mouth of the child, it was several weeks before tubercles sprung up on the surface of the vulva, and afterwards were discovered on the neck.

* Cazenave, Vidal, Velpeau and others, cited cases bearing on this point at a meeting of *Acad. de Méd.*, Oct. 1852.

In one of Mr. Whitehead's cases in his work "*On the Transmissions from Parent to Offspring of some forms of Disease and of Morbid Taints and Tendencies*," a female had a primary sore at seventeen, soon after her marriage, which was considered cured, although she had occasionally for two or three years afterwards sore throat, cutaneous eruptions, purulent secretion, and a tender state of the vulva. Her husband died twelve years after, and during his life she had been sterile. She married again two years after the death of her first husband, a healthy man, perfectly free from syphilitic taint, and by him she became pregnant. The child, when born, was healthy, but in a month's time it became "wan and emaciated; its face, breast, head, and limbs were covered with scaly blotches of a dark red color, circular in form, and of various dimensions; throat swelled; voice husky; breathing noisy." These signs of syphilis occurred fifteen years after the first reception of the poison, and in case third, the taint endured fourteen years, and terminated in malignant disease of the uterus; and the offspring of eleven pregnancies were sacrificed to the malady in this instance. In case twelfth, thirteen years was it latent, and in others a shorter or longer period of time; and in none of these was their first inoculation received.

At the present day, as to hereditary transmission of disease, no one need enter his caveat, but how it results still remains almost to all appearance as unexplainable as formerly.

As to the opinion of Sir Everard Home—reliance on the imagination—it is scarcely to be thought of; and Hunter denied that the secretions could be contaminated by the syphilitic virus, and doubted altogether a fœtus could be affected in a diseased mother, deeming it barely possible; and he considered that the matter from a secondary venereal sore had ceased to be venereal, and that, as a secondary or constitutional disease, it could not be propagated from the mother to the fœtus in utero; and his authority continued to mislead the general mass of medical men, although it failed to convince Mr. Hey of Leeds, who published a paper in the *Medico-Chirgical Transactions*, in 1816, narrating cases directly opposed to Mr. Hunter's views.

Devergie denied that the blood can be infected, but that it is transmissible in the same way as the distinctions of family traits, such as character, habits, &c.

Waller ascribes it to a permanent impression made by the semen of the male on the genitals, and more particularly on the ova of the female; and more lately Mr. McGillivary, of Aberdeen, veterinary surgeon, ascribes it to the influence exerted by the fœtus in utero on the constitution of the mother. Mr. McGillivary believes that there is a direct vascular connection between the fœtus in utero and the mother, and that

the validity of his theory hinges on this assumption. "When a pure animal of any breed has been pregnant to an animal of a different breed, such pregnant animal is a cross for ever after—*the purity of her blood being lost* in consequence of her connection with the foreign animal; for instance, if a cow, say of a pure Aberdeenshire breed, is in calf to a bull of the short-horn breed, in porportion as this calf partakes of the nature and physical characters of the bull, just in proportion will the blood of the cow become contaminated, and half a cross for ever, incapable of producing a pure calf of any breed."

A young chestnut mare, seven-eighths Arabian, belonging to the Earl of Munster, was covered in 1815 by a quagga, and marked somewhat after the manner of a zebra. The mare was covered but once by the quagga, and after a pregnancy of eleven months and four days, gave birth to a hybrid which had distinct marks of the quagga in the shape of its head, black bars on the legs and shoulders, &c. In 1817, 1818, and 1821, the same mare, which had changed owners, was covered by a fine black Arabian horse, and produced successively three foals, all of which bore unequivocal marks of the quagga. It is maintained, therefore, by Mr. McGillivary that the great variety of nondescript animals to be met with is the result of the crossing system, whereby the blood is vitiated.

Now, if these things exist in animals, why may they not exist in the human race? and it is of some interest to our profession to ascertain whether these facts do exist or not, and if they do would it not illustrate some of the facts stated in this paper, and it cannot fail to suggest questions such as the following.

The assumption of Mr. McGillivary respecting the direct communication is untenable, as the researches of Dr. John Reid and Mr. Goodsir on the structure of the placenta have demonstrated that the connection is indirect only—the fœtus and the mother imbibing materials from each other, very much in the same way the lacteal vessels take up the nutritious portions of the food in its travel along the small intestines. But independently of these considerations of Provost and Dumas, and of others, that the corpuscles of the fœtal blood are differently shaped from and in the later stages larger than, those of the mother, a fact which shows at least that no entire corpuscles of blood are transmitted from the one to the other; and indeed, taken in connection with the facts ascertained as to the structure of the placenta, proves that it is by transudation only that the contents of the uterine and fœtal vessels mutually pass into each other; and Professor Simpson has shown recently that the smallpox virus may pass unaltered from the mother to the child in her womb, and produce in it the actual disease, even although by reason of previous vaccination

the mother may herself remain unaffected by it. This will also apply to those cases of syphilis where no disease may be seen on the mother.

Dr. A. Thomson, in the *Cyclopædia of Anatomy and Physiology*, in the article on generation, remarks:—"It is affirmed that the human female when twice married bears occasionally to the second husband children resembling the first, both in bodily structure and mental powers."

And Mr. Harvey, on the Fœtus in Utero, in the *Dublin Press*, says: "Dr. O'Gilvie informs me of a case where a woman was twice married and had children by both husbands, and where the children by both marriages were scrofulous, although only the first husband had marks of the diathesis, the woman herself and her second husband being to all appearance quite healthy."

An instance of this, in point, is under my notice at the present time. Both parents deceased; lived to advanced age; mother died of cancer; the first husband of the lady was affected with phthisis, and died, leaving two children, both of whom died of phthisis; the second husband, who was perfectly healthy, died of apoplexy, and four of his children died of phthisis. And Munsel and Evanson state they have notes of a syphilitic child whose mother had been infected by a former husband, and to all appearance cured five years before the birth of the child. The father of the child—the *second husband*—being in good health: and further state their experience could produce many curious facts bearing on the communication of the syphilitic virus. Count de Strysleski has stated—which observation he has made from travelling in various parts of the world—speaking of the effect of fruitful intercourse between an aboriginal female and an European male:—"Whenever such intercourse takes place," says the Count, "the native female is found to lose the power of conception on a renewal of intercourse with the male of her own race, retaining only that of procreating with the white man."

From the observations and facts brought forth it would appear that a non-chancrous looking ulcer, or superficial ulcer, or what may be termed the elevated ulcer, will, by inoculation, produce a true characteristic pustule or classical chancre, and that it is not necessary to have the indurated chancre to produce its like—that the non-chancrous or superficial ulcer will, if permitted to pursue its course unstaid, result in the mucous tubercle, and therefore it should not only be considered as a secondary syphilitic symptom, which it has, but also as a primary one—that we deduce from the cases stated that it becomes our duty to treat the mother as well as the child when it has evidence of syphilitic disease—that the mother's system becomes contaminated, or rather inoculated, as it were, through the fœtus, and which view I am induced at

this time to believe, as offering, from the investigation of the facts presented, a more satisfactory solution on this point than any theory that has been advanced, and draw the conclusion that a man who has been cured of primary syphilis may transmit it to a female through the semen, and by infecting her blood graft the poison in the seminal vesicle of her ovary, and thus infect the fœtus from its source; and that a diseased husband, whether laboring under syphilitic disease or scrofula, may produce unhealthy children, though his wife should be perfectly healthy at the time of marriage, and that if she should marry a second time after the decease of her first husband, a perfectly healthy man, she will give to her second husband tainted children, derived from her marriage with her first husband.

ART. IX.—*On the Symptoms, Pathology and Treatment of the Sudden Coma (Apoplectic) of Typhus and Typhoid Fevers and Typhoid Pneumonia: with illustrative cases.* By J. LEWIS SMITH, M. D., Onondaga Co., New-York.

THE literature of this subject, so far as we have been able to ascertain, is very meagre, consisting for the most part of little more than passing remarks, in our standard treatises, upon coma as a contingency in fever. No writer, that we are aware of, has made it the subject of accurate and extended discussion, either in the form of monograph, or in connection with the general subject of fever. Still, these apoplectic seizures are sufficiently frequent and important to claim much attention. Dr. Graves (*System of Clinical Medicine, p.* 97) says: "Most of the fatal cases of typhus, at present, die of cerebral disease. But in the majority of instances you will find that these were cases in which the head was neglected, and in which the appropriate remedies were used too late. In cases treated from the commencement, with judgment, decision and attention, although the head may be threatened, you will not have one-twentieth of the mortality observed in cases where the early prevention of cerebral symptoms has not been made an object of care." This remark shows us the frequency of coma in typhus, according to the observations of Dr. Graves, and proves to us the importance, practically, of a correct and thorough understanding of its pathology.

The distinguished editor of the work from which we quote, Dr. Gerhard, of Philadelphia, appends the following note: "In the genuine typhus fever, this is almost always the case. Very few patients die of this disease, without strongly marked cerebral symptoms, but we do not on that account find strongly developed cerebral lesions; on the contrary

the brain is generally found in a condition but little different from that of health, and the lesions are very unlike those met with in proper inflammatory affections of the organ." Though not expressly stated, it is plain from the context that these writers allude to the profound coma or apoplexy (as it is improperly termed) of typhus. And though of less frequent occurrence in these diseases, this complication is no less grave, and scarcely less worthy of attention, as a source of danger in typhoid fever and pneumonia.

The following cases came under our observation, while resident student in the Buffalo Hospital of the Sisters of Charity, and care was taken that the records, which we daily made at the bedside, should be strictly accurate. In seven of these cases, the attacks occurred in typhus, two in typhoid fever, and the remaining two in typhoid pneumonia. The last affection so much resembles the two former, especially if they be complicated by the pulmonic inflammation, that in practice it is frequently difficult to draw the distinction. For this reason, and especially as coma in the three diseases has no essential difference, according to our views of its pathology, we do not hesitate to analyze the eleven cases together. We shall, however, frequently mention in which form of disease the symptoms were found.

In reference to the correctness of diagnosis, we would say that in all the cases of fever, with a single exception, there was the characteristic eruption, and in this case (Case 3), as in the fatal instance of pneumonia, post-mortem appearances confirmed the diagnosis. The remaining patient (Case 10) had several symptoms of typhoid fever, with the inflammatory complication; but had fever and such severe inflammation, which involved the entire left lung coexisted, the gravity of the case would have been much greater.

Notes of cases 2, 5, 7, 8 and 9 have already been published in Dr. Flint's recent "*Reports on Continued Fever*," (p. 324, et seq.) for it was during his attendence at the hospital, as physician, that these cases were treated. Candor requires us to say, that the day on which coma occurred in the course of the fever in Case 5, is differently stated in the two lists; otherwise the records, as far as we know, agree. Where the word coma occurs in the following pages, we of course mean sudden or apoplectic coma, and the days in the records of the cases of fever, are numbered from the time of taking to bed, unless it be otherwise stated. In this we have followed Dr. Flint, who considers the fever fully formed, when the patients are no longer able to sit up.

Instead of giving the daily records of the cases, for the sake of conciseness, we have presented the symptoms in groups; and we may have placed under the head of *nervous system*, to which indeed all the phe-

nomena of coma are referable, symptoms which might, with more propriety, be presented elsewhere. But as this is an error of collocation merely, we claim indulgence. For the sake of conciseness also, we have suppressed all those symptoms which seemed to sustain no relation to coma, unless they presented some unusual or striking feature.

CASE 1.—O. H., male, Irish, aged 38 years, carpenter, and of good constitution, recently arrived in this country; has typhus, but time of its commencement not known; was under observation three days when coma occurred, which lasted about thirty-six hours; attack commenced in the evening.

Nervous System.—Had marked somnolency from the first; subsultus, tremulousness of tongue, indistinctness of speech, and picking the bed-clothes were prominent symptoms, previously to coma; entire absence of pain and delirium throughout. The records state that during the attack he was unable to speak or protrude the tongue; that deglutition was difficult, and the pupils contracted. When the coma ceased these symptoms immediately improved, and on the second day subsequently he was wide awake and noticed objects as in health.

Digestive.—Had no dejection after coming under treatment till the last twelve hours of coma, when his bowels were moved by a cathartic.

Circulatory.—Pulse previously to the attack with one exception from 120 to 128 per minute, tolerably developed. At the outset of coma it arose to 138, feeble; and during this condition continued frequent and feeble in proportion to the gravity of other symptoms. On the day succeeding coma it was 108 full.

Respiratory.—On the first and second days of observation, respirations about 36; third day 28, evening (comatose) 24, fourth day (still comatose) 20, and on the fifth day or day following coma, 26. The inspiration was noticed to be relatively shortened when the patient was admitted to the hospital, and this change in the breathing continued. During the period of greatest drowsiness in coma, it was spasmodic, and the expiration somewhat prolonged. After coma the respiratory rhythm was natural.

Treatment.—Brandy ℥ ss. hourly, the first day of treatment; subsequently every half-hour, with ammo. carb. and aqua camph. freely. During coma in addition, emplast. canth. to nucha, and a cathartic. Diet, beef essence and milk porridge often.

CASE 2.—C., female, Irish, aged 18 years, domestic, and of full habit; took to bed with typhus about one week after landing in New-York; same day entered the hospital; coma occurred on the seventh

day subsequently, coming on late in the afternoon, and lasting about twelve hours.

Nervous System.—Had no delirium and no pain after her admission. During the two nights immediately preceding the attack rested quietly, but previous nights occasionally moaned and talked in sleep. Drowsiness moderate till the morning before coma, then considerable. During coma the sleep was for a time so profound that she was with difficulty aroused. Speech indistinct as early as the third day of fever. The following is the record made the day after coma ceased. "Is still rather drowsy, but easily aroused, by speaking; talks distinctly, and her whole appearance is improved."

Digestive.—Her bowels were regular till the day of the attack, when diarrhœa commenced; this was checked by a moderate dose of laudanum a few hours before coma was pronounced; subsequently to coma bowels again loose.

Circulatory.—No record of pulse during coma, but at its commencement it numbered 128 full; on the day following the attack 120 full; and the second day following 100. The greatest frequency of pulse was during the first four days of fever, when it ranged from 136 to 144 feeble. It was brought down on the fifth day of fever or two days previously to the attack of coma, apparently by increase of stimulants.

Respiratory.—Respirations at the beginning of coma, 28; no record of them during coma, but previously to it they averaged about 32 per minute. On the first and second days of fever, respiratory rhythm natural; subsequently inspiration relatively shortened, and during coma, loud and spasmodic; after coma had entirely subsided the rhythm was again natural.

Treatment.—Brandy ℥ ss. every two hours until the fifth day of fever; then ℥ ss. every hour; seventh day in addition tinct. opii, gtts. xx., and in the evening (comatose) emplast. canth. to nucha. Beef essence and milk porridge frequently.

CASE 3.—P., female, Irish, aged 40 years, three years in America, and has been living for several weeks in a crowded house; took to bed with typhus six days before entering the hospital. Coma on the tenth day of fever, coming on about 6 P. M., and terminating fatally in ten hours; no record before entering hospital.

Nervous System.—Had at no time pain, delirium, or subsultus; tremulousness of arms noticed on the eighth day of fever, and on the eighth and ninth, singultus; somnolency marked until the morning before coma, and then less than previously. The attack in the evening came on suddenly and its progress was rapid.

Digestive.—Tongue moist and thinly coated until the tenth day of disease; then thickly coated; on the 10th also nausea and frequent vomiting; previously nausea with occasional vomiting; no dejection for five days until the ninth, on the ninth and tenth one each day.

Circulatory.—Pulse from 88 to 96 before coma, feeble at first, but finally of ordinary fulness; during coma it became more and more frequent and feeble.

Respiratory.—Until the morning of the 10th, respirations from 24 to 30, but on this morning 16; during the attack they grew gradually slower to the last. Throughout the whole period of observation, the inspiration was relatively shortened, but on the morning preceding coma less so than previously. Early in the evening of the tenth day this feature in the respiration became more and more marked, and at 10 P. M., the inspiration was spasmodic.

Died at 4 A. M. the following day.—The treatment of this patient was similar to that of the foregoing, viz., by stimulants and nutritious diet. On the evening of the ninth day a blister was applied to the nucha, and this probably accounts for the temporary improvement in respiration, noticed the following morning.

Autopsy.—Not able to examine the brain. The abdominal viscera presented the usual characteristics of typhus, such as enlarged spleen, and mesenteric glands; two small tricocephali found in the caput coli.

CASE 4.—G., English, male, aged 30 years, carpenter, entered hospital, six days after arriving in this country, with febrile symptoms which ushered in an attack of varioloid. This disease having run its course, on the twenty-second day after entering, he took to bed with typhus; coma occurred on the fifth day of fever, coming on late at night, and lasting for eight to twelve hours.

Nervous System.—Somnolency was not a prominent symptom, except in coma, when as usual it was marked. Had active delirium during the morning of the fifth day, manifested by attempts to get out of bed, and passing into coma in the course of the night. In the apoplectic state, his pupils were contracted, and eyes suffused; could not protrude the tongue, but deglutition unimpaired; had no pain after the fever was developed.

Digestive.—Bowels regular throughout.

Circulatory.—Pulse previously to coma from 96 to 108, average 102; during the attack at one time, it was 124, and still later 136, feeble.

Respiratory.—Before coma, respirations from 26 to 30, average 28, and in coma 25 and 24; rhythm natural till the evening of the 5th, when, during the delirium, the inspiration was noticed to be relatively shortened; in coma the shortening was considerable.

Treatment.—Brandy and quinine in moderate doses, until the evening of the fifth day; afterwards brandy ℥ ss every half hour; blister to nucha when shortened inspiration was first noticed, but this was inadvertently applied low in the neck, and seemed of little service; on the morning of the sixth day of fever, vesication was repeated, and close to the occipital region; this appeared to have a very decided influence in effecting the cure.

CASE 5.—H., Irish, male, aged 35 years, laborer, had been in America about five weeks when the attack of typhus commenced; coma on the eleventh day of the fever, coming on late at night and terminating in about fourteen hours. The following abstract embraces the symptoms of the five days preceding the attack of coma.

Nervous System.—Had at times slight cephalalgia, but no other pain; no delirium till the night of coma, when as in the preceding case he had active and persistent delirium the first part of the night, coma coming on in the latter part, no subsultus; somnolency moderate previously to the apoplectic attack, but rapidly increasing after this commenced.

Digestive.—Had two dejections on the eighth day of fever, three on the ninth, and one on the eleventh; bowels at other times constipated.

Circulatory.—Pulse before coma from 110 to 128, average 119, full; capillary congestion of surface less marked from the first than is usual in fever. During coma the pulse grew more and more frequent and feeble; four hours after attack, numbered 130.

Respiratory.—Prior to coma, respirations from 26 to 34, average 30, but when the pulse numbered 130 they were only 6 or 7 per minute; rhythm of respiration was not noticed to be disturbed, till the apoplectic condition was declared, but it may have been as in the preceding instance, during the delirium which prefaced coma. When the respirations were 6 or 7, and the pulse 130 per minute, the inspiration was spasmodic, except upon the patient's being aroused, when the rhythm was improved.

Treatment.—Seventh and eighth days of fever, brandy ℥ ss. every three or four hours; ninth day every two hours; tenth and eleventh hourly; and during coma it was given without regard to quantity; blister to nucha late in coma. The medicine and nutriment were taken regularly during the delirium and till the last stages of coma. No autopsy of brain was made.

CASE 6.—E. H, Irish, female, aged 28 years, sister of the preceding patient with whom she came to America. Was taken with typhus one

day earlier than her brother; coma occurred the ninth day of fever, coming on late in the afternoon, and lasting about twenty-four hours.

Nervous System.—Had pains in the limbs at times, no delirium, drowsiness moderate till the morning of the ninth day of disease, and then considerable; during coma as usual the sleep was profound. On the eighth day she had considerable subsultus; no other record of it.

Digestive System, regular.

Circulatory.—Pulse, till the afternoon of the ninth day, from 118 to 124, average 121, full; in the evening of the ninth day, coma commencing, 152, feeble, and on the tenth day 136.

Respiratory.—The three days preceding coma, respirations respectively 24, 48 and 50 per minute; at the commencement of the attack they fell to 28, and gradually became less frequent till death; the inspiration was relatively shortened as early as the morning of the eighth day of disease.

Treatment.—Brandy ℥ ss. every three hours till coma, and then every half hour. On the evening of the 9th, coma commencing, a blister was applied to the nape of the neck, and on the following morning repeated. No autopsy.

CASE 7.—M. H., Irish, female, aged 25 years, sister of the preceding, and with her came to America; coma on the twelfth day of fever, coming on in the evening and lasting some 16 hours. The records embrace the symptoms of six days prior to attack of coma.

Nervous System.—Complained of pains in different parts of the body till the morning of the eleventh day of fever, but after this had none. On the seventh day, at two o'clock P. M., a paroxysm of active delirium suddenly occurred, the surface being livid, eyes unnaturally brilliant and pulse very frequent and feeble. After about half an hour this condition as suddenly subsided, and there was no further aberration of mind, except on the evenings of the tenth and twelfth days, when her talk was incoherent and unmeaning. Prior to coma subsultus slight, but during its access and decline this symptom was marked, though not present at its height; somnolency moderate till the morning of the twelfth day, when it is recorded as being considerable. During the whole night of the 12th and morning of the 13th the sleep was profound and uninterrupted, except when means were taken to arouse her.

Digestive.—No dejection between the ninth and fourteenth days.

Circulatory.—Pulse frequent and feeble before and after coma, the three days preceding coma numbering 136, 138 and 128 respectively; no record of this symptom in coma till near its close, when it was noted to be 144 and feeble.

Respiratory.—Before and after coma, respirations were uniformly frequent, the three days previous to the attack numbering 40, 32 and 48 respectively. On the forenoon of the thirteenth day of fever, near the close of coma, when the pulse stood at 144, the respirations were 24, and probably during the severest stage of coma, the number was still less. From the seventh to the thirteenth days inclusive, the inspiration was more or less shortened, and during coma, in a marked degree; subsequently the rhythm of respiration was nearly or quite natural, but the breathing somewhat labored.

Treatment.—Brandy ℥ ss. every five, three, and finally two hours till the paroxysm of delirium on the seventh day, after this brandy ℥ ss. every hour or half hour, with ammo. carb.; blister to nucha on the evening of the 12th.

CASE 8.—M., Irish, female, 20 years old, had been in America seven or eight months, when the complaint which proved to be typhoid fever commenced; she had been for several weeks a servant girl in the hospital, and the fever seemed to have been communicated to her by a typhoid patient near whom she slept at night. Coma on the sixteenth day of disease, commencing about 8 P. M., and continuing seven hours; the records embrace the above period of disease, excepting the first two days.

Nervous System.—Had no pain, and no active delirium during any part of complaint, but in the early stage of fever there was occasional aberration of mind shown by wild and incoherent talk. After the fourth night rested quietly. On the third day drowsiness became so marked as to lead to suspicion of coma; this was relieved by vesication of nucha. After a respite of two days the drowsiness was again developed with other symptoms of coma; blistering a second time gave relief, and afterwards till the fatal attack, somnolence was slight. On the 16th no solicitude was felt for the patient till late in the afternoon, when she had a sinking paroxysm with marked capillary congestion, and fears were entertained of her immediate death. By the free use of stimulants, however, the improvement was so decided, that she was soon thought out of danger. At 6 P. M. she was wide awake, and entirely conscious; had no pain, or, so far as we could learn, distress of any kind, but remarked that she should die before morning, which proved painfully true. Two hours subsequently the attack of coma commenced, and was so rapid that at 11 P. M. she could no longer be aroused.

Digestive.—Till the fourth day of fever, her bowels were constipated, but after this uniformly loose, except when restrained by laudanum.

Circulatory.—Pulse from 92 to 126, full, till the morning of the

16th, when 110, feeble. Immediately after the sinking paroxysm, the pulse numbered 122, full, stimulants at the time being given freely; in coma the number of beats gradually increased till death; capillary congestion marked at first, but after the twelfth day, little or none.

Respiratory.—Till the sixteenth day, respirations from 32 to 44, average 38; during coma they became by degrees less frequent, and at 10 P. M. numbered 26; inspiration relatively shortened from the third to the twelfth day, and from the twelfth to the final invasion of coma no marked disturbance of rhythm.

Treatment.—No treatment till the third day, when antimony and morphia were given tentatively from suspicion that the complaint was merely pneumonia, the crepitant râle being noticed on one side of chest; symptoms of coma suddenly became developed, with shortening of inspiration, somnolency and the like. Brandy was then substituted for antimony and morphia, and a blister applied to the nucha with relief. During the period of easy respiration the stimulant was continued, though in diminished doses, and during coma given without regard to quantity; the blistered surface allowed to heal prior to coma was not again vesicated till patient was relapsing into profound sleep.

Autopsy.—The brain not examined. Both lungs showed slight inflammation posteriorly; Peyer's patches ulcerated.

CASE 9.—O., English, male, 20 years old, had been in America twelve days when he took to bed with typhoid fever; coma occurred on the thirteenth day afterward, coming on in the evening, and lasting about eighteen hours. The records embrace nine days preceding coma.

Nervous System.—Had previously to coma occasional pains in different parts of the body, and on the morning of the thirteenth day pain in the umbilical region, but not sufficient to keep him awake; no delirium except on the night of the ninth day, when he made two or three attempts to leave the bed; drowsiness moderate till the thirteenth, but on this day it was observed to increase gradually. Deglutition began to be difficult as early as the morning of the thirteenth, or the morning preceding coma.

Digestive.—Bowels loose till the tenth day, but after this rather confined.

Circulatory.—Pulse from 92 to 100, full, till the morning of the thirteenth day, then 108; in the evening of this day, when coma had commenced, it numbered 114, rather feeble, and at noon on the fourteenth 152, this being about one hour before death.

Respiratory.—Prior to coma respirations from 20 to 32; during the attack they became less and less frequent, counting but six on the morn-

ing of the fourteenth; rhythm of respiration natural till three or four hours before the attack, after which the inspiration was relatively shortened.

Treatment.—Brandy ℥ ss. every two hours till the evening of the thirteenth day, then hourly, and on the fourteenth without regard to quantity; blister to nape of neck on the evening of the thirteenth.

Autopsy.—Great congestion of the scalp and of the cerebral veins and sinuses; amount of fluid, in the ventricles and at base of brain, but little if at all increased.

CASE 10.—H., English, male, 35 years old, of strong constitution, laborer—complaint, typhoid pneumonia; coma occurred on the seventeenth day of disease, coming on late in the afternoon, and lasting about eight hours. The records embrace ten days preceding the attack.

Nervous System.—No delirium, and little or no pain at any period of complaint; no subsultus till the access of coma, and then marked, but none after the attack had fully formed; great prostration from the beginning, and somnolency also was a prominent symptom till after coma, most marked of course during the night of the seventeenth.

Digestive.—Appetite not entirely gone after the few first days, but poor till after the seventeenth; bowels generally loose, confined however during the ten or twelve hours preceding coma, and twenty-four subsequent to it.

Circulatory.—Pulse from 76 to 104 till the seventeenth day, full; on the afternoon of the seventeenth, 124, and in the evening 130, of about natural fulness; when the attack had passed by, the frequency and fulness of the pulse were about natural.

Respiratory.—Respirations from 32 to 46 till the morning of the seventeenth day of pneumonia, and then 24. No record of frequency of respiration during coma. The respiratory rhythm was natural till the afternoon before the attack, when the usual shortening of inspiration commenced; on the ensuing night the respiration was markedly stertorous, and so labored as to be distinctly heard from the third story to the basement.

Treatment.—Morphia in small doses till about the fourteenth day of inflammatory attack, when brandy ℥ ss. every three or four hours was given in its place. On the evening of coma, the stimulant was suspended on trial, but the symptoms grew worse so rapidly, that it was resumed in ℥ ss. doses every two hours; tannin and laudanum injection on the morning before coma, and when coma had commenced, a blister to nape of neck.

CASE 11.—F., Irish, male, twenty-five years old, laborer, and robust, suffering an attack of pneumonia; coma came on late in the evening of the fifth day of inflammation, and terminated fatally in about eight hours. The records embrace the symptoms during the whole sickness.

Nervous System.—Had severe pain in the chest the first twelve hours, but afterwards none, except on motion, until the afternoon of the fifth day. At this time, pain returned to the chest, and was severe till relieved by a sinapism; cephalalgia occasional, and slight; somnolency and prostration considerable from the beginning; no delirium and no subsultus.

Digestive.—The first part of sickness had nausea and vomiting at times, but none after the third day, when his appetite began to improve; bowels regular.

Circulatory.—Pulse from 108 to 122 until the fourth day of inflammation, and then 128; on the fifth day, coma commencing, it was 132, and thus far had been full; during coma the pulse, as usual, grew more frequent and feeble until death.

Respiratory.—Respirations from thirty-six to forty-six until the evening of the fifth day, after which they were less and less frequent; shortened inspiration was noticed early on the evening of the fifth day before there was any suspicion of the approach of coma.

Treatment.—Morphia gr. $\frac{1}{8}$, every four to six hours during the whole period of disease, and tart. ant. occasionally in same quantity. Both were given in the afternoon preceding coma, in consequence of the pain. The apoplexy had advanced to a hopeless condition when discovered, so that the stimulants and vesicant were employed too late to be of service.

Autopsy.—Moderate congestion of the veins and sinuses of the brain, but no more than the ordinary amount of fluid in the ventricles and at the base. In this and the preceding case the lungs were extensively inflamed. In case 10, at the time of coma, the whole left lung gave a flat sound on percussion, and on auscultation the tubular respiration. In case 11, similar signs were present over the lower two-thirds of right lung and the autopsy revealed this extent of gray hepatization.

Pathological Condition and Symptoms.—There is a difference of opinion among pathologists as to the exact condition of the brain in this form of coma. Hildenbrand (*Copland's Dictionary*, vol. 1st, p. 96) considered it (nervous apoplexy) the cause of death in contagious typhus; patients dying without any effusion, or appearance of congestion or compression, both apparently from a sudden collapse of the nervous agency of the brain." This, too, seems to be the view of Drs. Graves

and Gerhard. Others hold, that effusion into the ventricles, or at the base of the brain, is the cause of the comatose attack. The ingenious theory of Dr. Flint, now of the Louisville School, is based on this supposition, who believes, or at least ventures the hypothesis, that the ganglionic centres of the pneumogastrics are compressed by sudden serous effusion, thus causing the phenomena of coma. That exhaustion, or atony of the nervous centres, is a cause of the attacks, seems to us highly probable, for it is admitted, among pathologists, that coma sometimes arises from this cause, and few diseases are more debilitating than those under consideration. On the other hand, the two fevers, as also pneumonia, are accompanied by capillary congestion, frequently considerable. May not the congestion of the capillaries, veins and sinuses of the brain, aid in producing the apoplectic condition?

Viewing the question, then, rationally, it would seem that a medium position between these two extreme opinions is the correct one. But what do facts teach us? That coma does occur in typhus and typhoid fevers without effusion at the base of the brain, and with little or no congestion, there can be no doubt; for observers, as Dr. Gerhard, who have spent years in clinical study, expressly state it. On the other hand, if we turn to Dr. Flint's recently published *Clinical Reports on Continued Fever* (p. 232), we find the following result of an autopsy where a typhus patient had died of coma: "Considerable congestion of vessels of brain; moderate increase of sub-arachnoid effusion. About an ounce of fluid in arachnoid cavity." Such post-mortem appearances, observed by Dr. Flint, have led to his theory, to which allusion has already been made, and they show conclusively that the apoplexy of continued fever may accompany, if not result, from increased serous effusion at the base of the brain.

About the same diversity of results seems to have attended post-mortem examinations in cases of coma occurring in pneumonia. In the eleborate treatise of Grisolle, on this affection, p. 393, we find the following passage: "Coma was observed in five persons, one recovered; the other four succumbed. In two, the brain and meninges did not present any lesion; in the third, arachnitis was sufficient to explain the cerebral symptoms noticed during the last days of life." Of the fourth case, no account is given by the author.

On the other hand, in examining the cranial cavity in the fatal case of pneumonia (case 11), we found congestion of the veins and sinuses, but no more than the usual amount of serum at the base of the brain. We regret that similar post-mortem examinations were not made in all the fatal cases recorded. Only one other autopsy of the brain was ob-

tained, viz., in case 9, and here the congestion of the veins and sinuses was considerable, with but little if any effusion. Not to deny, then, that extreme cases do occur on either hand, and lend support to both the theory of Hildenbrand and the more recent theory of Dr. Flint, it seems probable that the condition of the brain may be at any point intermediate to these extremes, and that generally atony and congestion of the nervous centres co-operate to cause coma. (*See note.*)

The average duration of the diseases, when the attacks occurred, was in the typhus cases eight days, in the typhoid fourteen and a half, and in the pneumonia eleven. It is an interesting fact, that in every instance the apoplexy began late in the afternoon, or at night, the natural tendency to sleep no doubt favoring its occurrence. Six of the eleven patients died, and the average duration of coma in the whole number was about fourteen hours. This must be considered an approximate number of hours, for the approach and decline of coma is so gradual, that it is difficult to express its exact duration by figures. Still the estimate does not differ from the truth materially, and it shows at once the rapidity and gravity of the attacks.

Convulsions, delirium, and drowsiness are mentioned by writers, as the forerunners of coma (*Cyclop. of Pract. Med. Art. Coma*). In no case did convulsions occur; but in nine, there pre-existed drowsiness, and in two, active delirium. In six of the nine, the drowsiness had been marked more than a day prior to the attack. In two, it was first noticed on the morning previously, and in the remaining one, it was gradually developed during the same day. It would be interesting to know how profound the coma may become, and life be saved. So far as our experience goes, there is chance of recovery, as long as we can arouse the patient to consciousness, but when no means of excitation will cause him to open his eyes, or give indications of intelligence, there is no longer reasonable hope.

The active delirium mentioned as a preliminary symptom to coma in two cases, was manifested in both by frequent attempts to get out of bed, and one of the patients (case 4) struck the nurse a severe blow. The delirium which in both instances was present in the evening, passed into coma before morning. Pain in different parts of the body existed in some of the cases, prior to coma, but no more than ordinarily pertains to inflammatory and febrile complaints. In one instance only did this symptom seem to sustain a relation to coma. In case 11, pain in the chest was quite severe, on the afternoon before the attack. In this case, perhaps by causing exhaustion, it favored the occurrence of coma.

When a patient has once become comatose, he experiences no further

pain or uneasiness, unless it be produced by artificial means. This should be borne in mind, for instances like the following may occur. A patient (case 11) was visited in incipient coma; his labored respiration when asleep attracted attention, but on being aroused, he said he felt well and should sit up next day. Unhappily, all suspicion of danger being lulled, no treatment for coma was adopted, and when again visited a few hours after, he had relapsed into profound and fatal sleep.

Other symptoms directly referable to an impaired state of the nervous system were present in a proportion of cases, but not with sufficient uniformity to require more than a passing notice.

The condition of the pupil is recorded in four cases, and in all was contracted. Writers speak of the pupil, as either contracted or dilated in coma, and B. Cooper (*Braith. Retrospect*, vol. v.) calls the contracted state a symptom of great gravity; two however of the four recovered. In five cases there was subsultus, and in four of these this symptom was most marked at the accession of coma. Dysphagia and indistinct speech were present, occasionally, among the premonitory symptoms, and, doubtless, they would have been noticed oftener, were it not that the measures which determine their presence or absence necessarily arouse the patient. When the attacks had far advanced, they were uniformly present, or, perhaps indistinct articulation had given place to entire speechlessness, and inability to move the tongue. The coma was of too short duration to determine whether it deranged the bowels. That the digestive process in the stomach was greatly embarrassed or even suspended, there can be no doubt; for whatever impairs the functions of the pneumogastrics, impairs in a corresponding degree the activity of that organ, as physiologists have shown. Stertorous respiration was a striking and uniformly present symptom, but its occurrence was not abrupt and unheralded. Whenever drowsiness preceded coma, there coexisted with it shortened inspiration, slight at first, but gradually increasing as sleep deepened. This feature in the respiration was not noticed so early where delirium instead of drowsiness marked the approach of coma. But in case 4 it was observed during the delirium, and it may have been present equally early in the other instance.

The prolonged expiration, characteristic of the apoplectic state, was noticed in no case until coma was pretty far advanced. Generally, if not in all cases, the respiration was laborious in proportion to the degree of somnolency, and of change in the respiratory rhythm. In case 10, and this patient recovered, the breathing was distinctly heard from the third story to the basement.

But in what way is stertor produced? Though this is not perhaps a

question of any practical interest, still as a matter of science it claims attention, and an answer. Writers who treat of this point make very loose and general expressions. Thus Good and Crawford, the former in his *Remarks on Stertor*, and the latter in his *Essay on Coma*, consider stertor as arising from relaxation of the muscular fibres of the internal fauces, and upper part of the larynx. To this point, indeed, the bystander refers the abrupt sound of inspiration, but such indefinite statements as Good and Crawford make cannot satisfy the curious. Let us study the point further. As the pneumogastrics are the nerves which especially preside over the respiratory function, and which are mainly concerned in producing the phenomena of coma, they demand our chief attention. If section of these nerves be made above the laryngeal branches, there will evidently result, so far as the respiratory function is concerned, a condition similar to that of coma, for in coma it is conceded that the office of these nerves is, to a greater or less degree, abolished. Now, when this section is made in lower animals, it is found that the arytenoid cartilages incline towards each other, so as greatly to embarrass inspiration, and sometimes produce such complete closure of the glottis that death results from suffocation (*Carpenter's Human Phys.* p. 409). In man during coma we find inspiration in like manner embarrassed, but suffocation never ensues, in consequence of the following beautiful safeguard.

If we notice the respiration of the comatose patient, we shall see the whole larynx descend with each inspiratory act, and when at its lowest point the air rushes in, producing the characteristic loud and abrupt sound. The current, in its passage downward, falling on the larynx carries this before it, so that the aryteno-epiglottidean folds are put upon the stretch. These folds pass from the arytenoid cartilages upward, and outward, to the base of the tongue, and borders of the epiglottis, and when in a state of tension draw asunder the cartilages, and the vocal chords. The rima glottidis being thus thrown open, the air enters in a body. Let one take the recent larynx, with the folds complete, and, by producing moderate tension, similar to that caused by a descending current of air, he will see the truth of this explanation. This view, too, receives additional strength from such simple experiments as the following. Protrude the tongue so as to stretch the folds, and the freedom of inspiration is increased; or inhale the maximum quantity of air in the minimum time, when, of course, the rima glottidis will be enlarged to its greatest extent. In this case the whole larynx descends.

It will be observed, that if the rima glottidis be thrown open in the manner we have indicated, the act is entirely mechanical, depending

simply on the impulse of the current of air. This is what we should expect in profound coma, in which innervation is well nigh lost.

Physiologists, without exception, we believe, ascribe the enlargement solely to the action of the laryngeal muscles; but that the agency of these in the profound coma of which we treat is slight, if it aid at all, seems quite certain. In all instances, the records show that the respirations became less frequent in exact proportion, to the degree of somnolency; and in a majority of the cases, preceded by the somnolent condition, this diminution in the respirations was noticed as early as the morning prior to the attack. On the other hand, the pulse invariably became more frequent and feeble, as coma advanced, generally beginning to accelerate among the first symptoms of the attack, while the respirations in the cases that recovered scarcely fell below the standard number in health; we find in one case (No. 4), the pulse as high as 138, and another (No. 1), 144; both surviving.

In all the cases that succumbed, the temperature of the body fell, and the surface became cold and clammy, while the patient could still be aroused. Dr. Crawford states (*Art. Coma*): "We may lay it down as a general rule, that the danger is always in proportion to the degree in which the respiration, circulation, and temperature of the body, are affected." But we learn from the records, that the pulse may have the frequency of 144 per minute, and the inspiration be spasmodic, and the patient recover. In no case, however, was there a marked decrease in the temperature, without a fatal result. The loss of caloric appears due to the following causes:

1. The lack of nervous agency throughout the system, producing, in all parts, that effect on the temperature, which we see locally in cases of paralysis of a limb.

2. Suspension, more or less complete, of digestion.

3. Impairment of the respiratory and circulatory functions.

From a review of the foregoing symptoms, when may we be led to suspect the approach of coma? If in the after part of the day the patient grows gradually and unusually drowsy, and the inspiration is relatively shortened, while the pulse is still full, or, if feeble, not feeble in proportion to the gravity of other symptoms, the apoplectic attack is certainly impending. Or if in the after part of the day there be active and persistent delirium, it may, without prompt and correct treatment, terminate in coma.

Treatment.—A physician not familiar with these attacks, called to a patient in incipient coma, where, as is often the case, the face is flushed, and the action of the heart still strong, would very likely be tempted to

try the lancet. Indeed, we have known a typhus patient, in this condition, saved from copious venesection only by the rapid change of symptoms, to a cold and clammy skin, and frequent and feeble pulse. None of the cases, in our records, was bled, and we cannot therefore state from observation whether the lancet should ever be used. If employed as a remedial agent, it should be in the first stages of the attack, with the patient in the horizontal position, and with a small orifice, so as if possible to relieve congestion, without debilitating. We would not, however, with our present views, recommend general or even local bleeding in any case of this form of coma; for, we are convinced, that, if the patients be treated promptly, at the time when bleeding would be admissible, by the remedies which we shall mention, a majority would recover.

If our views of the pathological condition be correct, if the coma arise from exhaustion, and passive congestion within the cranium, to stimulate is the obvious therapeutical indication; and the foregoing cases sufficiently show the propriety of this treatment. By reference to the records it will be seen, that the most active stimulants, as brandy and carb. ammo., and the most nutritious drinks, as beef essence and milk porridge, were given in large quantities, and in the main, from an early period; and in no case did this treatment seem to do harm. On the other hand, where the stimulants were intermitted, or not commenced in time, or where, instead of them antimony was given, the result was without exception bad. Thus patient No. 8, no diagnosis having yet been made, and the crepitant rale being detected in the chest, took ant. tart. and morph. sulph. āā, gr. $\frac{1}{6}$ for trial. In a few hours shortening of inspiration and drowsiness became so marked, that the immediate occurrence of coma was feared. But from these threatening symptoms, she was relieved by the stimulating treatment. In case 10, coma being yet in its first stages, and the disease primitively pneumonia, brandy, which had been given during the two or three previous days, was temporarily withheld. In the course of three or four hours the symptoms became in so marked a degree worse, that the effect of the suspension was clearly shown. In the other cases, so far as could be ascertained, stimulants were also beneficial, and had these remedies been employed earlier, and to a greater extent, in some of the fatal cases, the mortality would probably have been less. We cannot, of course, specify the quantity to be given; the doses must be graduated according to the severity of the attack. In pneumonia, or in fever complicated by pulmonic inflammation, if the pulse be strong, the stimulant should doubtless be given more sparingly than in other cases; whilst in advanced coma, with frequent and feeble pulse, there is no danger of over-stimulation, whether the lungs

be inflamed or not. The remedy on which chief reliance was placed, was brandy, both from its efficiency as a stimulant, and as a generator of caloric in the system. It is of importance that the drinks should be given hot. The water used to dilute the brandy, and the beef essence and milk porridge, are rather sedative than stimulating if taken cool; and we have known marked improvement in the symptoms of typhus patients, merely in consequence, so far as could be determined, of raising the temperature of the ingesta. When the bowels have been confined previously to coma, there is no doubt of the propriety of moving them by a mild cathartic, or better, perhaps, an aperient injection. This reduces the strength but little, and the advantage at times may be considerable. In one case only, in this collection, was a purge administered at the time of coma, and this seemed to aid in overcoming the attack.

Before leaving the subject of the general treatment of coma, we will allude to the common practice of giving tartarized antimony for the active delirium, which occasionally occurs in fever and pneumonia. When the delirium is present in the early stages of these affections and is not attended by prostration, this remedy may be very serviceable, but at a more advanced period its employment seems hazardous, especially if the delirium occur in the after part of the day. For, as we have seen, this condition of brain may be the prelude to coma, and depression of the powers on the brink of the apoplectic state is to be avoided. At least we would recommend antimony in such cases, only after other means to quiet the excitement had failed. A blister to the nape of the neck, or morphia in small doses, we have known to answer the indication admirably, in the delirium of typhus. The records throw no light on the effects of antimony as thus employed, for this remedy was not given in the two instances of delirium, and we have seen only one patient in this condition treated by antimonials. This was a case of typhus, and though no notes were taken, we recollect the transition was rapid to fatal coma.

What we have advanced, however, on this subject, rests mainly on pathological considerations, and we would not have the temerity wholly to condemn the employment of this agent in the delirium of advanced fever and pneumonia. Strong as the therapeutical indications seem to be to abstain from it when a condition which may and often does end in coma is present, its use in such cases is so common, even by the best and wisest physicians, that we are induced to stay our opinion on the subject and wait for further facts. Suffice it then for the present to say, that we look with suspicion on the administration of antimony in the form of delirium we are considering, and would use it with caution, and

not until other means had been tried, after the first stages of disease had passed by.

Much as we have recommended stimulation by internal agents, we consider that derived from local means scarcely less important. It was the common practice in the hospital, when symptoms indicative of the approach of coma were observed, to blister the nucha close to the occipital region; and at this point rather than elsewhere, on account of its proximity to the origin of the pneumogastrics. Dr. Graves's method is (*System of Clinical Medicine*, p. 98,) to vesicate the whole scalp, and he speaks in high terms of this treatment, as a means of stimulation. With our view of the pathological condition, that congestion of the brain is also an element in coma, we may add that a blister also by its revulsive effect tends to relieve the cerebral vessels. The cases embraced in our records, and several cases of threatened coma, which occurred among the fever patients in the hospital, and which were relieved by vesicating the nucha, abundantly show the importance of the local agent. Thus in some instances (cases 2, 3, and 4,) where the quantity of stimulants was not increased at the time of the application of the cantharides, the subsequent improvement was marked. When the symptoms were urgent, aqua ammo. or chloroform was applied to the part to produce a more speedy effect.

Dashing cold water upon the head, or the steady and persistent application of cold to it, may be and probably is of use, as a means of excitation, but it was not tried in any of the eleven cases; it cannot possibly take the place of the vesicant.

Since reading the able and interesting lectures of Golding Bird, on *Electricity and Animal Heat*, it has occurred to us that the galvanic battery may be serviceable in these cases. According to this author, electric currents relieve congestions, by producing a similar electric state in the particles of blood, so that they repel each other. They also excite organs through which they pass, and it is well known that when sent along paralyzed nerves, they become partial substitutes for the nervous power; so that the functions of the parts are still in a measure performed. May not the electric fluid then, if transmitted from the occiput to the epigastric region in the course of the pneumogastrics, serve as an agent to relieve and stimulate the brain, and improve the functions of respiration and digestion? This appliance, so simple, does not interfere with other treatment, and seems to us to promise so well, that we would try it did an opportunity again present. The benefit might be trifling, but in a state of such gravity as coma, any adjuvant to the main treatment is of importance.

Note.—Dr. Bennett, of Edinburgh, several months since, published a case of coma occurring in scarlatina, which was relieved apparently by the wine of colchicum, and he thinks the attack was caused by the circulation of urea in the blood. The quantity of urine is frequently diminished, in febrile and inflammatory diseases, and the question may properly be asked, Did not the retention of urea occasion the comatose attacks we are considering? On account of the involuntary evacuation of this secretion, and other causes, we did not determine the amount of urine voided by these patients. But in No. 1, it could not have been much diminished, for it was necessary to remove it two or three times daily with the catheter. We have known marked diminution in the amount of urine in typhus and typhoid patients without the least symptoms of coma. Besides had these attacks been due to urea, it would be difficult to explain the prompt and permanent benefit of the treatment in many of the cases which had no tendency to eliminate this material.

Art. X.—*Extracts from the Report of the Proceedings of the New-York Pathological Society.* [Selected and prepared by Committee of Publication.]

Peculiar Post-Mortem Appearances of the Brain in Purpura. By Dr. Macneven, Physician to the Emigrant Hospital, Ward's Island.

Bridget Hogan, and infant, were admitted to the wards of the Emigrant Hospital, Ward's Island, on the 25th of October, 1852; the mother suffering an attack of dysentery, child in usual health. Soon after admission, the secretion of the mother's milk was somewhat arrested, in consequence of which the child did not receive its usual quantity of nourishment, nor sufficient to answer its demands; still, nothing unusual in its appearance or condition attracted attention until a few days before its death. On the 14th of November, several dark purpuric spots were observed upon its arms, legs and chin, and on the evening of the same day it was attacked with convulsions. From this it recovered, but, during the evening of the following day, the convulsions returned and proved fatal.

Autopsy.—The dark spot on the chin appeared to extend to the bone where it presented a stellate appearance, and involved the periosteum; on removing the calvarium, the membranes covering the left hemisphere were observed to be of a dark color, while those of the right were normal in appearance. Section of the left hemisphere exhibited a melanotic condition of the substance of the brain, and upon opening the left ventricle a mass resembling a coagulum and occupying the whole cavity rolled out, having the color of the brain but less consistence. The right hemisphere

appeared healthy; right ventricle distended with serum. The tentorium cerebelli presented a mottled appearance, as did also the superficies of the cerebellum. No other morbid appearances detected in the body.

Sacculated Bladder. By C. D. SMITH, M. D., Surgeon to Bellevue Hospital.

Mr.——, a merchant of this city, aged 76, of active habits, had, during his long life, enjoyed the most robust health, until within five or six years of its close, when he began to be troubled with frequent desire to void his urine. This gradually increased upon him, causing at times considerable pain and difficulty.

During the latter part of last summer, my attention was called to his case. He had become so enfeebled as to oblige him to discontinue his business, in which he had been daily occupied for over forty years. He was laboring under a diarrhœa which had lasted for several days, accompanied occasionally with tormina and tenesmus. He had incessant and repeated calls to void his water, which passed but little at a time, and with pain. Upon examination, his urine was found pale, clear and acid. Demulcents were prescribed; and well regulated diet enjoined, and a few days relieved him of the urgency of these symptoms.

Suspecting from the history of the case and also from the facts mentioned above, an enlarged prostate gland, I was anxious for an examination per rectum, but could not at that time obtain it. A week or ten days subsequent to this, he complained of a sense of oppression and faintness about the præcordial region. He was also much troubled with flatulence and pain in the bowels. Passing my hand over the abdomen, I accidentally discovered midway between the umbilicus and the pubis, a tumor of conical shape, the base attached, the apex movable from side to side, more towards the left than the right, somewhat elastic to touch, and painful when pressed upon. My patient had no knowledge whatever of the existence of this tumor, and was greatly surprised when I pointed it out to him. I examined it carefully and at various times; while standing, it could not be felt, only when in the recumbent position could it be determined.

He generally passed his water eight or ten times during the night, and was always obliged to rise from bed when he did so. He was not so much troubled during the day, being able to retain his water two or three hours at a time. He had always to wait a minute or so, before it would commence to flow, and when it did, it came freely, but with no great force—discharging about a teacupful at a time. I examined his water at different periods and always found it acid.

Not understanding the nature of this tumor, I proposed a consultation, and Dr. Van Buren was called in. Our patient consenting to whatever examination we deemed advisable, we examined him per rectum and found a greatly enlarged prostate, and pressing with the index finger of the right hand upwards and against the gland, we felt a movement given to the other hand, placed on the abdomen over the tumor, from which we concluded there was a connection between the tumor and the bladder; besides there could be felt in the abdomen something like a band passing from the tumor towards the bladder. The tumor was the same size after urinating as before. It did not appear to give rise to any of his symptoms or to be in any way connected with the progress of the case. Its true character was not understood. For two months our patient seemed to improve in his general health. He walked about the house, and rode out several times. Towards the latter part of December, however, he began to decline; his appetite, which had been excellent till now, began to fail; he had incontinence of urine, particularly at night, and the tumor of the abdomen subsided. His feet became œdematous, and soon after his legs, and finally his face presented the same appearance. Dyspnœa supervened and he very gradually sank, and died on the fourth instant. Twenty hours before his death, he passed no water.

Autopsy, sixteen hours after death.—There was found some effusion in both pleural cavities; the posterior parts of both lungs were œdematous; the heart slightly enlarged. In the abdominal cavity, the bladder was seen pushed out as it were from the pelvis, and found to be the tumor in question. It was carefully removed, together with the prostate gland, ureters, and kidneys. The prostate was four to five times larger than its normal size, and there was a small portion of its substance protruding into the bladder in the form of small tumors, and partly closing the opening into the urethra. The bladder itself was greatly dilated, and contained about a quart of urine; the muscular coat hypertrophied, and presenting very much the appearance of the columnæ carnæ of the ventricles of the heart. At the anterior summit of the bladder the mucous and cellular coat had pushed through between the meshes of the muscles and formed a pouch or cyst which constituted the apex of the tumor felt through the walls of the abdomen. The ureters were also very much enlarged and the pelves of the kidneys were greatly dilated. The cortical portion was atrophied and a cyst developed upon the anterior and superior surface of each kidney; that on the right was as large as the organ itself, and contained fluid.

Case of very rapidly developed Carcinoma of the Liver.—Reported to the Society by ELISHA HARRIS, M. D., Physician to the New-York City Dispensary. Presented by Prof. A. CLARK, M. D.

Miss C. B., æt. 42 years, applied at the New-York Dispensary, Sept. 6th, complaining of a sense of weight and constriction deeply seated in the epigastrium. She stated that during the preceding ten days she had suffered a constantly increasing pain in the dorsal region, and that for five or six days she had endured constant nausea without vomiting. The bowels were constipated, the tongue clean, pulse about 70, and languid; face full and ruddy; stated that she had always enjoyed perfect health until within two or three weeks preceding her application at the dispensary; catamenia ceased early last spring, and since that her appetite had been poor, had felt herself becoming enfeebled and mentally depressed; habits, though formerly very active, had for the last year been sedentary and irksome, being employed as dry nurse.

I carefully explored the abdomen, and deeply seated on the right of the median line, and apparently a little above and posterior to the pyloric extremity of the stomach discovered a hard and well-defined tumor, which so near as I could judge was about the size of a small orange; it seemed to be seated in the posterior portion of the left lobe of the liver, and could be most distinctly felt by firm pressure beneath the xiphoid cartilage, and by counter-pressure from the lower and middle portion of the epigastrium. At this period the liver seemed to be of only normal dimensions, and its convex surface was of natural consistence. The region of the tumor was painful on pressure or percussion.

I gave the patient an eccoprotic mixture and directed her to return after four days. I was not then satisfied as to the cause of her illness, or the nature of the tumor. She was a tall, well-developed woman, her habits had always been good; she was descended from a healthy family none of whom so far as I could ascertain, had ever suffered from cancer.

Sept. 10*th*, patient returned to the dispensary, and I then made the following note of her case:—"The tumor has more than doubled its former dimensions, and is more painful on pressure; the patient suffers greatly from nausea and from a sense of constriction and weight in the epigastrium; she is becoming sallow; pulse is more languid; skin dry, tongue clean and red, bowels free, pain in the back increases; the tumor is more easily defined, but does not seem nearer the anterior surface of the liver."

Sept. 14*th*, she again visited the dispensary, and I made the following note:—"The tumor has increased more rapidly than during the preceding four days; it is approaching the anterior surface of the liver,

and extends downwards nearly to a line with the umbilicus; it seems principally confined to the left lobe of the liver, though that entire viscus has rapidly enlarged, probably from engorgement, while the tumor, though increasing with amazing rapidity, yet remains distinctly defined, and seems as hard and resisting as a cannon ball. The patient complains very much of the sense of weight and fulness caused by the morbid growth, which she describes as 'a great ball exceedingly hot;' otherwise she does not suffer more than at her last visit."

At this date, only eight days after the tumor was discovered, it had grown so as to extend over about one-fourth the surface of the abdominal cavity; and the engorged viscus in which it was seated seemed to occupy at least one-third of that cavity.

Sept. 20*th.*—The morbid growth had extended considerably below the umbilicus, and involved the whole of the liver, except the inferior portion of the right lobe; in shape, it preserved the exact form of the liver, and its surface was nodulated and very inelastic. Having now become unable to make her usual visits to the dispensary, I subsequently saw her twice a week at her residence. The tumor continued to increase until about the 1st of October, when it had attained its maximum dimensions. Some of its nodulations or lobules then began to be somewhat elastic. The nausea and burning heat continued to increase; she could seldom retain any solid food, vomited frequently, sometimes a greenish fluid; the dejections from bowels continued free, and had the normal consistence and color. She craved and used acid drinks freely. Until after the 1st of October, the patient did not become very markedly emaciated, nor until that period did she exhibit a cachectic aspect. From that date, until the time of her death, the tumor became gradually elastic, and during the last two weeks, it gave that deceptive sense of fluctuation often observed in encephaloid cancer. During the entire period of her illness, the patient's sleep, though broken, was tolerably good. She suffered much from dyspnœa, and from a hacking cough without expectoration. At no period was there any evidence of obstruction in the portal circulation, until three days prior to her death, when some œdema of the feet, and slight effusion into the peritoneal cavity were observed. Patient died Nov. 21st.

Autopsy, 24 *hours after death.*—Abdomen and thorax examined.—All the viscera appeared perfectly healthy, except the liver and a few of the mesenteric glands; the stomach, pancreas, and spleen, the uterus and its appendages exhibited no trace of disease. The liver occupied more than three-fourths of the cavity of the abdomen, and was a huge mass of encephaloid cancer. Its structure was microscopically examined by Professor Clark, but nothing of particular interest was observed.

PART SECOND.

CRITICAL ANALYSIS.

ART. X.—*The Transactions of the American Medical Association.* Instituted 1847. Vol. V. Philadelphia, 1852, 8vo. pp. 939.

WE open this volume of the Transactions of our National Medical Association, to give our annual summary of its contents, with feelings of pleasure and pride. In many respects, it is the most important volume which has yet appeared, and augurs most favorably of the future. The reports of the various committees are drawn up by distinguished members of the profession, who have discharged their duties no less creditably to themselves, than honorably to the Association, which with just discrimination appointed their several tasks. Passing over the minutes of this meeting, which have already appeared on our pages, and the reports of the committees *On Amendments to the Constitution*, we shall proceed to notice the more substantial matter of the volume.

The Prize Essays.—The number of essays contributed for the prize was sixteen, from which that of AUSTIN FLINT, M. D., of Buffalo, N. Y., *On Variation of Pitch in Percussion and Respiratory Sounds, and their Applications to Physical Diagnosis*, was the only one selected as entitled to the award of merit. The design of this essay is fully expressed in its title. The author remarks in his opening sentence, that "very little attention has hitherto been paid to the variations in the pitch of sounds heard in the practice of percussion and pulmonary auscultation." Of the writers whom he has consulted, Dr. Walshe, of London, notices this subject most distinctly, but does not make a practical application of the facts to the diagnosis of individual thoracic diseases. Barth and Roger allude to it, as also Dr. Bowditch, of Boston, in his *Young Stethoscopist*. Dr. Flint makes no mention of the elaborate paper of Drs.

Camman and Clark, of this city, (*A new mode of ascertaining the dimensions, form, and condition of Internal Organs by Percussion,**) published more than ten years ago, which not only illustrated scientifically the principle of variations of pitch in the percussion of internal organs, but established with precision their application to physical diagnosis. This is one of the most important contributions yet made to this subject, and may be perused with great profit in connection with this essay. The author, however, has greatly extended the subject by including the variations of pitch observed in respiratory sounds, and although he has too recently directed his attention to this latter branch, to speak definitely on many important points, yet he has sketched the outlines of a broad and fertile field for future cultivation. The appendix contains a large number of clinical cases illustrative of the principles contained in the text.

The first section treats of *attention to pitch of sound in the practice of percussion*, and the following proposition is made: *An elevation of pitch always accompanies diminution of resonance in consequence of pulmonary consolidation.* The importance of this law is seen in the early stage of phthisis, when "comparison in pitch affording more delicate means of discovering a slight deviation from the symmetry of the two sides," confirms the other physical signs. The usual mode of practising percussion is that advised by Dr. Flint, but we would suggest the method pursued by Drs. Camman and Clark in their investigations, as affording a still more delicate test, viz.: the application of the ear to the solid stethoscope resting over the region to be examined and percussion made in its vicinity.

The second section is devoted to the study of the *pitch of sound in the practice of auscultation;* first in healthy respiration, and second in cases of pulmonary disease. The healthy respiratory sounds are divided into the *tracheal*, *bronchial*, and *vesicular*, according to the anatomical relation of the parts of the pulmonary apparatus from which they emanate. The following is stated in regard to these several sounds:

In conclusion, while the tracheal and bronchial sounds were found to be essentially the same in character, the circumstances distinguishing each from the other being rather incidental than intrinsic, the vesicular respiration, on the other hand, contrasted with the two former, exhibits some striking points of dissimilarity. It has that inexpressible peculiarity distinguished as the vesicular quality. The inspiratory sound is lower in pitch. The expiratory sound, when heard, save in a limited situation, is lower than the sound of inspiration, the reverse of this being

* The *New-York Journal of Medicine and Surgery.* Vol. iii. p. 62, 1840.

true of the tracheal and bronchial sounds. Distinctive features less prominent, but important, are the greater length of the inspiratory sound, the shortness of the sound of expiration, the continuity of these two sounds, and the fact that in a large proportion of cases the sound of inspiration alone is appreciable.

The conclusions at which the author arrives in his examination of the *variations of pitch in respiratory sounds in cases of disease*, the most important division of his subject, we shall give in his own concise language:

1. In the second stage of pneumonitis, the inspiratory sound is high in pitch, followed by an expiratory sound, which is frequently, if not generally, higher in pitch than the sound of inspiration; these traits being found in conjunction with more or less of the other characters which belong to the bronchial respiration.

2. In cases of small tuberculous deposit, or incipient phthisis, the most striking modification of the respiratory sound is the elevation of pitch. This elevation of pitch is an important element of what is generally known as the *rude*, *rough*, or *harsh* respiration. If an expiratory sound be appreciable under these circumstances, it may be as high, or higher in pitch, than the sound of inspiration, and the variation of pitch in the former is greater, inasmuch as the pitch of expiration in the normal murmur is lower than that of inspiration. Elevation of the pitch of expiration, therefore, may be found to be valuable as a sign of incipient phthisis in some cases in which the variation in the inspiration is not marked.

3. If the tuberculous deposit be more abundant, the pitch of respiration is in a more marked degree elevated. The expiratory sound, if appreciable, will be likely to be as high, or higher in pitch than the sound of inspiration. More or less of the other characters of the bronchial respiration are at the same time present.

4. In pleurisy with effusion, the pitch of respiratory sound is elevated, in conjunction with more or less of the characters of the bronchial respiration, over the parts of the chest lying above the compressed lung. In cases of large effusion, after its complete removal by absorption, the affected side may continue to present a variation in pitch, the symmetry of the two sides being permanently impaired, in this respect, after the vesicular quality of respiration is regained.

5. In cases in which tubercle has advanced to the stage of excavation, the site of a cavity of considerable size is indicated by a blowing sound, low in pitch, with an expiratory sound (if appreciable) lower in pitch than the sound of inspiration. These traits constitute the elements of the cavernous respiration, and the cavernous respiration is the most constant and reliable of the signs of an excavation.

If the cavity be very large, or there are several cavities, the respiration may be modified to such an extent that, on immediate auscultation, over the whole summit of the chest, it may present the cavernous characters. This may be the case, while dulness on percussion shows the

existence of more or less solidification in connection with the cavities. The coexistence of relative dulness on percussion, and a low-pitched blowing respiration, denotes the predominance of excavation.

The cavernous respiration may also be present in cases of excavation from circumscribed gangrene, and in pneumothorax with perforation.

6. In arrested phthisis, the traces of the disease may be manifested by a permanent variation in the pitch of respiration, in connection with more or less dulness on percussion at the summit of the chest on either side.

Reports of Committees on Special Scientific Subjects.—The first of these reports is *On the Blending and Conversion of Types in Fever*, by Samuel Henry Dickson, M. D., of Charleston, S. C. This elegant writer and philosophical thinker enters upon the discussion of his subject by rejecting the theory of *one fever poison*, and determining what is *type* in fevers. The term has been employed to express promiscuously many of the varied relations of fever, some of which have a strong resemblance and close affinity, while others are dissimilar and even have an almost absolute contrast. Without offering any exact limitations to the word type: "It must be understood always to convey some marked distinction, lying deeper than the general relations that connect the subjects treated of. While we may still dispute whether typhus and typhoid differ essentially, no one will confound scarlatina or a tertian intermittent with either." The various types of fevers are definitely associated with and produced by some causative agent, and are referable to the nature of the specific materies morbi when such a material substance exists. Thus the periodic fevers are derived from poisons of a vegetable, and perhaps also mineral, origin, and prevail most in newly settled territories, while continued fevers depending upon an animal poison devastate cities, camps, prisons, emigrant ships, &c., in which people are densely crowded. The exanthemata depending upon a specific poison constitute another type of fevers: yellow fever, and also catarrhal fever occupy disputed territory, but the author is disposed to set them apart as distinct types. The following types, therefore, may be assumed as established:

1. The periodical, including (after Bartlett) the intermittent, remittent and congestive.

2. The continued, comprising typhoid, true typhus, simple fever ephemera, febriculæ, British epidemic fever, relapsing fever.

3. The exanthematous, variola, scarlatina, measles, dengue.

4. Yellow fever; the "hæmagastric pestilence" of Copland, causus of Mosely, typhus icterodes of Cullen, malignant remittent of Rush.

5. Catarrhal fever, known when epidemic as influenza.

Writers have recognized this conversion, or, better, interfusion of

type, which takes place among fevers belonging to the same class as among intermittents, remittents, &c., and have therefrom inferred a "unity of cause." Dr. Dickson believes the truth will be found in the following propositions: 1. That each type, or marked variety, of fever is the result of a definite cause, relevant in its properties, character, and mode of action, to the effects produced, however obscure this relevancy may be, and ill understood, in the present state of our knowledge. 2. That these causes, varying greatly in nature, must be sometimes similar, sometimes dissimilar, and sometimes contrasted or opposite in the character or mode of their efficiency. 3. That causes of different kinds may sometimes coexist. 4. That when they resemble each other, their effects or influences are readily *blended*, and mingled, and interchanged, as one or the other may predominate. 5. That when dissimilar causes coexist, they may sometimes act together, but not often; may sometimes blend their influences, but not readily or freely; they may possibly supersede each other by *substitution;* but in no imaginable instance can the effect of one cause be the effect of another and dissimilar cause. "The blending of types" connate in cause and analogous in symptoms, is common; in the same locality we shall find at the same time and arising from the same causative influence, causes of intermittent, remittent, and congestive fevers of every form and grade. "In the same individual, a simple intermittent shall be followed by a 'malignant,' 'pernicious,' or congestive paroxysm, which, if not fatal, will subside into an ordinary remittent; all these promiscuously interchanging." The interfusion of continued fevers is seen in the confusion which exists among writers in their definitions and descriptions of the several types. The exanthemata frequently illustrate this "mingling of characteristic features;" variola, varicella, and varioloid are sometimes undistinguishable; scarlatina and measles may attack the same individual simultaneously, "nay, they blend so readily, and act with such seeming affinity upon each other, that we may affirm the existence of a sort of hybrid begotten between them."

But this *blending* is not confined to connate types of fever; the remittent of malarious origin may lose its periodicity, and become continued or typhoid; typhus and typhoid may also give their character to the eruptive fevers when the latter are protracted. The history of dengue affords a striking example of the blending and interfusion, or, as the author terms it, "absolute confusion" of types of fever. This disease was recognized, in 1850, by a majority of physicians of southern cities as an exanthem, by some thought to be peculiar, by others similar to the epidemic exanthem of 1828: Porter pronounced it a bilious remittent; Dunglison considers it "a singular variety of rheumatic fever;" Copland

decides upon the same data that it is a variety of scarlatina. Much the same confusion of opinions exists in respect to yellow fever and catarrhal fever, thus showing how intimately these types may blend.

Dr. Dickson treats of the second branch of his subject, *the phenomena of apparent conversion of types*, in a most satisfactory manner. Our limits allow of only the following quotation:

The examples above given, he remarks, of the mingling and interfusion of symptoms of two or more forms of fever, differ among themselves in the greater predominance of one morbid influence or another in the several cases. Of numerous attacks which commence in the same way, the course, history, and ultimate termination may be strikingly diverse. Invading with the ordinary symptoms of climatorial, autumnal bilious fever, one shall retain its periodical malarious character, ending as it begun, with the features of a simple remittent. Another, losing these features in a protracted course, shall grow more and more continuous, and ultimately put on all the appearances of maculated typhus, with dry, dark tongue, mouth, teeth, and gums blackened with sordes; or present the meteorism and abdominal disorder of typhoid, with intestinal ulceration shown *post mortem;* and a third shall sink promptly into profound collapse, dying with orange-yellow discoloration of skin and eyes, and black vomit. If we suppose these to have been all struck down by malaria, in a locality infected by the coexistence of the three morbid poisons, it is easy to imagine some of them to come under the influence of ochlesis, the alleged source of typhus and typhoid, and others, strangers and predisposed to fall victims to the obscure cause of the hæmagastric pestilence. We may correctly assume that in all these, a temporary *blending* of types took place at a certain stage of their progress, under the conjoint influence of the several concurrent causes. As they advance, however, the more intense or forcible influence would predominate; generally speaking, the malarious characteristics, periodicity especially, would disappear, being substituted or supplanted by those of the more malignant poisons; a virtual and complete *conversion of type.* In this sense, then, we believe that conversion is not only possible, but frequent, and shall proceed to adduce in proof a few further instances.

We cannot for a moment admit the truth of the specious doctrine, that fever, or as it is imaginatively termed, the febrile element, is a unit, identical in all the forms of that protæn malady. On the contrary, we are prepared to maintain that, from the great diversity of specific causes of fever, a great diversity of specific effects must necessarily result; and that, as the effect must always be precisely relevant to the cause, unless the latter undergoes modification, transformation, or substitution, the former must remain unaltered. Specific difference in causative or generative agency, will give an absolutely specific difference in results. If, for example, some fevers are contagious, and not all, this single fact must constitute solely and of itself, an entire essentiality of diagnosis.

Contagion, speaking of it now materially, not dynamically, must,

in the present state of our knowledge, be considered an organic germ, vital, reproductive, and self-multiplying; these properties are predicable of no form of dead, inorganic matter. It follows, therefore, clearly and logically, that contagious types of fever, *if any exist*, are divided *toto cælo*, from non-contagious types of fever. But the existence of both is universally recognized; it is known that they may coexist, indeed, occurring together in the same locality, the causes of both being then present. They may be blended together also, their causes conjointly or simultaneously affecting the same subject.

We cannot imagine either these *causes* or *effects* to be *convertible* in the precise and accurate sense, by any possible mode of transformation, under any conceivable force or influence; but we know them to be in many cases superimposed one upon the other, and substituted one for the other; in some instances a total subversion of one by the other seems to take place, the first disappearing with all its characteristic symptoms, and the second prevailing with despotic, absolute sway. Such conversion is not, we repeat, by any means a rare phenomenon, and may happen universally, as between any two of the diversified forms of fever.

Where types differ by some characteristic quality or prominent feature, less marked than the well-defined property of contagion, it becomes less easy to trace and to exhibit the fact of conversion, chiefly because it is less easy to establish a plain diagnostic, or separating line, between them; and a merely intensified violence of grade or malignancy, as it is phrased, does not constitute either an example of conversion, or of blending of type. It is not difficult, however, to prove that all specific fevers are equally peculiar and absolutely distinct, as arising from specific causes of exclusive and definite morbid force. Thus, if we are right in the commonly received opinion that certain fevers—the periodical—derive their existence from a poison of unknown nature, which we denote as X, or choose to call malaria, a mere name serving to distinguish it, which poison we find to be produced more actively and abundantly in the neighborhood of swamps and jungles, and exclusively in warm climates and seasons, and as readily in desolate and uninhabited districts, as in settlements inhabited and cultivated; and further, that certain other fevers are occasioned by another and different poison of nature alike unknown, which we denote as Y, or choose to call ochlesis, which poison is generated as readily in cold climates and seasons, as in hot countries and the summer months, and more actively and abundantly, when men are most crowded together; then, surely, we have a right to reason for the contrasts thus presented, that the distinctions are real and essential, which separate typhus from simple intermittents. Yet a patient falling into typhus, or recovering from it, may exhibit the periodicity and other characteristic symptoms of malarious intermittent; but this will and can happen only when he has been efficiently exposed to both the poisons X and Y, for the latter of these never can nor will produce the effects of the former, and *vice versa*.

The second report is *On the Action of Water on Lead Pipes, and the Diseases proceeding from it:* By Horatio Adams, M. D., of Waltham,

Mass. On the first branch of their subject the committee remark, "that pure water exerts no effect on pure metallic lead;" but such water does not exist naturally, and the investigation turns therefore upon the effects of natural water upon lead. These effects are due to foreign matters, as air, acids, gases and salts; and as all natural water contains these agents in some proportion, all natural water acts on lead. In regardto the very important but undecided question, what is the minimum of lead which can exist in water, when used as a beverage, without detriment to health; the committee dissent from the opinion of the London chemists that one-fifty-seventh of a grain of lead, per gallon, has no possible influence on the health, and of Dr. John Smith, of Aberdeen, that less than one-twentieth of a grain has no deleterious effects on the health of those using it for ditetical purposes.

In numerous cases of well-defined, unmistakable lead disease, which have come under the observation of some of the committee, the water suspected to be the cause of disease, has been chemically examined. While, generally, it may be said that the amount of lead in solution, would not fall below one-twentieth of a grain per gallon, yet, the cases have not been rare, where disease has been produced by less than one-one-hundredth of a grain of metallic lead per gallon in solution, or one in seven millions of water. One-hundredth of a grain of lead is easily detected by a simple stream of sulphuretted hydrogen. Water has sometimes caused disease, under the eye of a part of your committee, where this test showed no trace of lead; yet, lead was abundantly evident after concentration of the water, and the sulphuret thus obtained, has been converted into salts of lead, which have been again examined to confirm the hydrosulphurous test. Small as the amount of lead—less than one-seven-millionth of the weight of water—in solution thus appears; the committee are disposed to place it still lower. The Tunbridge well may be adduced, whose water, flowing through a lead pipe, disordered many who drank it; and it contained so minute a trace of lead in solution, that some of the most acute and eminent chemists of the day, men full of chemical tact and laboratory experience, failed to detect its presence. Happily for the afflicted, lead was at last detected, the pipe was removed, and health returned.

The doctrine of protective power this committee considers as "no longer tenable on scientific or practical grounds." The only argument which should be admitted in regard to the safety of lead-transmitted water, must "add to the non-occurrence of disease, the fact that the pipe is not acted on, and that the water repeatedly, and under all circumstances examined, has never shown the presence of lead. Such pipes and such water are unknown to your committee, etc."

In treating the second branch of their subject, relating to diseases pro-

ceeding from the use of water transmitted through lead pipes, the committee acknowledge their indebtedness to the excellent work of Tanquerel, but add for illustration a large number of cases, which have been communicated to them, or have fallen under their own notice. They are of opinion that lead disease is far more common than is generally supposed; that many obstinate neuralgias, rheumatic affections, &c., are really traceable to the influence of this slow poison, that finds an easy introduction into the system from the very general use of lead pipes. The treatment recommended is the same as directed by the French author, and is that ordinarily resorted to in this country. We cannot close this report without alluding to the treatment of lead poisoning by iodide of potassium, as exhibited in a very interesting memoir *On the Employment of Iodide of Potassium as a Remedy for the Affections caused by Lead and Mercury*, by M. MELSENS, and translated by Dr. Budd of the Bristol Infirmary (*Med. Chir. Rev.*, Jan. 1853.) "In all cases of mercurial and saturnine poisoning," says Dr. Budd, "he assumes and no doubt rightly, that the metallic substance is in actual union with the affected part or parts, and is retained there in the form of some *insoluble* compound. According to his view, the iodide of potassium, after its absorption into the blood, combines with the metallic poison, and forms with it a new and *soluble* salt—liberates the poison from its union with the injured part—dissolves it out, so to speak, from the damaged fibre, and sets it once more afloat in the circulation. The new compound thus set at liberty (under the form, it is presumed, of a double iodide of mercury and potassium) he supposes to be eliminated through the kidney almost as soon as formed, in combination with an excess of iodide of potassium that may happen to be present, so that both poison and remedy being cast out together, the cure may be said in a peculiar sense to be radical and complete." The remedy is given in doses increasing from half a drachm to a drachm and a half daily, with no other than the most beneficial effects. A house-painter having incomplete paralysis of the arms, and lead colic, took 3087 grains of iodide of potassium in three months, and was perfectly cured. "A typefounder complained of *tormina*, and of weakness of the legs; 2778 grains of iodide of potassium entirely restored him. A workman, of forty or fifty years of age, who had worked in a white lead manufactory, and also in an establishment for making visiting cards, had been in hospital more than six weeks. When first subjected to the iodide of potassium treatment he was weak and quite broken up. It is almost impossible to form an idea of the rapidity of the amendment which ensued in this man. He grew better, so to speak, as you stood by. At the end of three weeks he

left the hospital completely cured. The dose of the iodide had been raised pretty rapidly; when he left the hospital he was taking 77 grains a day." Dr. Budd has used iodide of potassium in one case of lead poisoning since his attention was directed to the subject by the perusal of this memoir, "and apparently with great success."

The third report is *On the Permanent Cure of Reducible Hernia*, by GEORGE HAYWARD, M. D., of Boston, Mass. In reply to the questions addressed to their professional brethren the committee received but seven answers. The first writer, Dr. Merriam, of Topsfield, Mass., details an operation for femoral hernia in which a portion of omemtum was removed and the patient lived twenty years without any return of his disease. Dr. Hinman, of Derby, reported a case of inguinal hernia in which the sac was laid open, and the inside of it brushed over with the tincture of iodine after its contents had been returned into the abdomen; the operation had been performed but a year, and although still successful the period was too short to decide definitely as to its results. Dr. Pond, of Griggsville, relies wholly upon pressure, and is confident of having treated a number of cases of inguinal hernia with success. Dr. John Watson, of New-York, reports a case treated by injection, by the subcutaneous method of Dr. Pancoast; the result was favorable, but only ten weeks had elapsed after the operation. Dr. March, of Albany, gave accounts of four cases treated in a similar manner but unsuccessfully. The last communication was from Prof. Eve, of Georgia, detailing the history of two operations on a boy of ten years of age for reducible inguinal hernia; the first was that of Bonnet, by means of pins, and was unsuccessful; at the end of a month a portion of the scrotum was invaginated, and after adhesion had taken place a truss was applied. The patient continued well eight months, and, considering his age, it was thought the cure would be permanent. On account of the few communications which were placed at their disposal, the committee felt that all the information which the Association had a right to expect had not in this way been obtained, and therefore proceed at considerable length to review the various operations which have been practised to effect a permanent cure of this distressing affection. We have space only for their conclusions:

1. That there is no surgical operation at present known which can be relied on with confidence, to produce in all instances, or even in a large proportion of cases, a radical cure of reducible hernia.

2. That they regard the operation of injection by the subcutaneous method as the safest and best. This will probably in some cases produce a permanent cure, and in many others will afford great relief.

3. That compression, when properly employed, is, in the present state

of our knowledge, the most likely means of effecting a radical cure in the greatest number of cases.

The fourth and last special report is *On the Topical Uses of Water in Surgery*, by CHARLES A. POPE, M. D., of St. Louis, Mo. To lay before the Association the most important points connected with this subject the writer directs his attention to "the *modus operandi* of water, when topically applied, and the therapeutical indications rationally based thereon." These vary with the temperature and mode of applying this agent. *Cold water from 35° to 55° Fahr.*, interruptedly applied, is an indirect excitant of considerable power, by the reaction which it induces in the part, and is therefore useful in frost-bite, chronic and indolent ulcers, as a means of strengthening the organic fibre, and as a hemostatic agent. When continuously applied this reaction is prevented, the temperature is diminished, the vitality depressed, and irritability moderated. The indications for the continuous use of cold water are thus stated:

1. As a local anæsthetic. From the effects which we have described as following the application of water of a low temperature, we should, *a priori*, infer its use in obtunding sensibility. We produce a frost-bite of the first degree, when the part is said to be "dead." Benefit in this way can only be obtained in parts of no great thickness, as the phalanges of the fingers and toes, amputations of which have been thus performed, without the patient experiencing the least pain. General anæsthesia by the usual means of ether or chloroform inhalation will for such purposes, on account of a more rapid indication of the desired effect, be perhaps preferred; still, cases contraindicating the exhibition of these very exceptionally dangerous agents may occur, when for the removal of fingers or toes or the ablation of certain tumors, as we have ourselves practised, it may be desirable to resort to other means, or to the local anæsthetic power of cold. Here, as in other instances, to prevent undue reaction, the cold applications of a gradually more elevated temperature should be continued as the after treatment. Do not ether and chloroform produce local anæsthesia by their evaporations inducing cold? Certain it is, we think, that their major action may in this way be explained, as their local and general effects seem so widely to differ.

2. In inflammation of particular parts, as (*a*) in inflammation of the brain, especially when induced traumatically. Notwithstanding the fear once felt in the use of cold applications to the head, they are now, next to bloodletting, generally acknowledged to be one of the most powerful remedies in the treatment of such affections.

(*b.*) In ophthalmia, attended with ocular pain and cephalic congestion. Some of the German surgeons are fond of cold applications in all purulent ophthalmia, as they think that they prevent the discharge, and mitigate the violence of the disease. Here, too, its place is next to bloodletting. In the *ophthalmia neonatorum*, cold water has been found very serviceable, and excellent success has also attended its employment

in scrofulous photophobia. In simple catarrhal ophthalmia, cold applications should not be too long continued. Their good effects are most marked in the earlier stages, when, failing, their continuance is likely to induce a rheumatic complication. Poppy and other anodyne fomentations are then preferable.

(*c.*) In traumatic inflammation of the thoracic and abdominal cavities, as contusions, wounds, &c., attended by extravasation of blood. Many surgeons who employ cold applications in affections of the limbs, fear their use about the trunk, on account of the proximity of serous surfaces, which they allege take on consequent inflammation. Marshall Hall strongly recommends them even in ordinary hemoptysis, and they have been and are still used in metro-peritonitis with decided advantage. Our own experience is decidedly favorable to them in bleeding and penetrating wounds of both cavities of the trunk, and we have not noticed the production of this dreaded pleurisy or peritonitis to be attributable to their action. Is there not also a serous membrane of the brain? but we are not on this account deterred from their use in traumatic lesions of the head. The osseous envelope is not a sufficient explanation of the difference in the two cases.

(*d.*) In orchitis, cold applications act most beneficially, so long as the true sthenic character prevails. According to Rusk, their use should not be too long continued in the inflammation of glandular organs, because of the indurations which are likely to follow. This surgeon is very partial to the use of cold water in almost all external diseases, but for the reason assigned does not admit its employment in orchitis even of a traumatic origin. He prefers in such cases warm sugar of lead fomentations. This induration, with enlargement, almost always follows inflammation of the testicle as an immediate consequence, under every treatment, and I am not aware that it more frequently follows the use of refrigerants than other remedies. In the earlier active stages of orchitis, their use will, as in other inflammations, be found, on trial, consonant to the general rule. In inflammatory enlargements of the superficial lymphatic glands of the groin, along with rest and a compressive bandage, we have found cold applications very useful in effecting a return to their normal size. There are buboes which will suppurate in spite of all and every treatment. In such, the specific for example, where suppuration is by many regarded as an elimination of the poison, we withhold the use of refrigerants.

(*e.*) In inflammation of mucous surfaces, as gonorrhœa, leucorrhœa, chronic cystitis, &c., the application of cold water, either by fomentations, irrigation, or injection, (in case of the bladder, by means of a double catheter,) are very useful. The cold imparts tone and strength to the relaxed and weakened membrane. In the case of the penis, local cold baths are generally to be preferred to injections. Uterine injections, however, have of late years met with favorable reception in practice.

(*f.*) In paraphymosis, the use of cold water is highly serviceable. It diminishes inflammation and engorgement, whilst it favors the spontaneous reduction of the glans, or proves an efficient aid to the manipula-

tory efforts of the surgeon. The water should be poured upon the part from a height for twenty minutes or half an hour before attempting the restoration. We have never yet seen a case at all acute which has resisted this means and required a resort to the knife."

Reports on Epidemics.—The largest portion of the present volume is occupied with the reports of the several committees on the epidemic diseases of the different sections of the country for which they were appointed. Although the efforts of the committees have not met with that general response from the profession distributed throughout their territories, that is so much desired, and is so necessary to the success of this enterprise, yet sufficient has been accomplished to encourage the Association to consider well the difficulties which embarrass its committees and adopt measures for the more successful prosecution of this undertaking. We cannot enter into any useful generalizations upon the facts submitted in these reports, and shall therefore limit our notice principally to the suggestions of the committees in regard to the difficulties which embarrassed their operations.

The committee on the epidemics of New England and New-York, failed to make a report from want of the proper materials. They made "all suitable efforts to obtain the requisite information," by publishing a circular in the medical journals of their section addressed to the profession, by correspondence and inquiries. It is humiliating to acknowledge the fact, that the only response which the physicians of this large and populous territory made to this appeal for scientific information, which it ought to have been a privilege to them to furnish, was but a *single* formal communication. We do not measure their intelligence, or zeal in the cultivation of medical science by so disreputable a standard; nor will we be so uncharitable as to presume that the circular failed to reach the majority through the medium of the *medical* press. But we deplore the want of interest, which this fact exhibits, in the profession of the country for a speciality which it lies within their immediate province to investigate, and which promises to reward their labors so abundantly.

By the failure to obtain the desired information, the committee were led to reflect upon the obstacles which opposed their present and future success, and to offer some suggestions for the consideration of the Association. In view of the necessity of a long-continued series of observations, before any useful results can be deduced in regard to epidemic diseases, they advise the appointment of committees for a term of years, instead of annually as at present. They very justly observe:—"A committee appointed to investigate the epidemics of any extended section of the country needs a longer time than a year to discover, to any great extent,

its reliable sources of information; and it is eminently true of such a committee that what is ascertained in this respect in one year, would be of essential advantage in the investigations of the next. And if, therefore, it should be appointed for a series of years, the results of its researches would become from year to year more valuable; and at the conclusion of its term of service, a summary of these results could be made out, which would be of very great value to the profession. It is obvious that comparisons could be instituted between the results of different years, by a committee acting for the whole period, which could not be made successfully by committees newly appointed from year to year." We need scarcely add that this suggestion of the committee was approved by the Association, and their term of service extended to five years.

The committee further desire the co-operation of State and County Medical Societies. "It is no small consideration, that under the plan which we have suggested, a large portion of the information that would be gathered would be examined and canvassed in the very communities where it is collected. Such information, it is obvious, would be peculiarly reliable. And another consideration, which we deem to be of great importance, is, that the proposed plan would connect the interests of the local societies throughout the country with those of the National Association, and that too by uniting them in a common effort, in the investigation of one of the most important classes of subjects that can engage the attention of medical men. The good which would result from the creation of such common bonds between the great congress of our profession, and the multitudes of local associations throughout the Union, is so obvious that it needs only to be mentioned to be appreciated." The same view is urged by another committee with nearly the same line of argument. They also desire the institution of sanitary commissions by State legislatures, a measure already adopted by the State of Massachusetts, the first fruits of which was the valuable report of Lemuel Shattuck, Esq., of Boston.

The importance of these suggestions of the committees for the successful prosecution of their investigations will be recognized by every one. The deduction of principles in regard to epidemic diseases can be effected by no process of reasoning or bibliographical research; the data are yet to be obtained, and there is but one source from which to seek it, and that is the medical profession resident in the country. But how shall its sympathy be enlisted, and its co-operation obtained? Evidently by bringing the subject more directly to its notice. The old adage, "what is every body's business is nobody's business," was never better illus-

trated, than in the complete failure of the committee for New England and New-York, in obtaining information, by addressing the profession at large through the medical journals. We think it unfortunate that the chairmen of these committees are not allowed to associate with themselves a larger number than four members. The committees cannot be too large while they have an efficient and responsible head; but these associated members should be selected from different sections of the territory in which the observations are to be made. Every member of the committee becoming thus individually responsible, would exert himself to obtain all the information on this subject in his vicinity and consequently would develop sources of information which never would have been reached by distant agencies. We have but little faith, however, in the efforts to enlist State or County Societies to obtain local reports, nor do we believe that any special advantage would result from the appointment of these sub-committees. But without extending these remarks to any greater length, we will simply suggest, that the chairmen of these committees be allowed to associate an indefinite number of members, in order that there may be at least one for each State; that County Societies be *instructed* to appoint one of their members annually to communicate *directly* with this committee, or such member of it as resides in the State, on all matters pertaining to this special subject; and finally that the Association solicit the co-operation of the Smithsonian Institute, at Washington, which has recently established a system of meteorological observations over the entire country, in obtaining from their different stations, medical as well as meteorological reports, the observations for the former being made with constant reference to the latter. To this end the apparatus of this Institution should be placed in charge of scientific physicians, instead of men often wholly indifferent to the subject, as at present. By the adoption of such measures, competent physicians in every State and County would become personally interested in the subject by having a direct appeal made to them for information, and by being brought in contact with the leading members of the committee; and what is of the highest importance, reports would be obtained based on accurate meteorological registers.

BIBLIOGRAPHICAL NOTICES.

ART. XI.—*Atlas of Pathological Histology.* By Dr. GOTTLIEB GLUGE, Professor of Physiology and Pathological Anatomy in the University of Bruxelles, &c., &c., translated from the German, by JOSEPH LEIDY, M. D., Pathologist to St. Joseph Hospital, Philadelphia, &c., &c.: with three hundred and twenty figures, plain and colored, on twelve copperplate engravings. Philadelphia: Blanchard & Lee, 1853. Royal Quarto, pp. 100.

IN no department of the medical sciences has research, made during the last few years, been crowned with more successful and valuable results to rational medicine, than in the department to which this beautiful volume is devoted. To all who are familiar with the actual state and ultimate tendency of micrologic investigation, it is needless for us to mention the merits or demerits of this book. But there are not a few of our readers who will rejoice to see this work of Dr. Gluge's in an English dress—a work which was originally appended to his great work on pathological anatomy, and contains a concise description and accurate illustrations of the histological elements which may be observed under the microscope in the principal pathological lesions of the body.

The introductory to the body of the text is occupied with "tables of the magnitude and weight of the organs of man in the normal and abnormal conditions." After this comes a short introductory, followed by observations on the development of the histological elements in general. Section first is occupied with the "Development of the Elements of Tissues;" section second with "The Elements of the Tissues combined in perfect or imperfect Tissues, and arranged according to the Processes of Disease;" section third, with the "Formation of the Blastema;" section fourth, with "The Histological Metamorphosis of the Blood;" section fifth, with "Pyæmia;" section sixth, with "Gangrene," and section seventh, with "Observations on Histology."

The third section is occupied in determining the sources and nature of the plastic substance which furnishes the material for the development of the new tissues. This plastic substance, in disease, is deposited in two modes; without previous stasis of the blood as in normal nutrition, and with stasis of the blood-corpuscles, probably through their agency, as in inflammation. The groups of phenomena or stages of inflammation are divided as follows: congestion, hyperemia, stasis, exudation, and gangrene.

On the subject of metamorphosis of the blood, in the fourth section, we find views entertained by Dr. Gluge which, in some respects, are peculiar to him, and which differ from most authors. That the blood can undergo distinct histological changes with the vessels, he thinks is cer-

tain, but in a more limited degree than when it has escaped into the inter-capillary spaces, or is exterior to the vessels. The metamorphosis of blood-corpuscles into inflammation-globules and cells, he thinks, cannot always be traced or proved, for the simple reason, that frequently when the examination is made, the red color has already disappeared from the mulberry-formed globules. The existence of these bodies (inflammation-globules) within a vessel, he considers certain evidence of the fact that stasis has occurred in a column of blood during life. The mode of transformation of blood-corpuscles into pigment granules is, in his opinion, problematical. Blood exterior to the capillaries he believes undergoes similar changes, but on a more extensive scale. The blood-corpuscles become changed into inflammation-corpuscles, at first red and after uncolored, and into pigment cells filled with black granules which are insoluble in mineral acids.

Section fifth, as before stated, is occupied with a consideration of the subject of pyæmia and purulent discrasia. The principal cause of pyæmia, he considers to be coagulation of blood in the veins, which then undergoes conversion into pus, and is thus conveyed into the capillaries. He does not agree with those who believe that phlebitis, or inflammation of the lining membrane of veins, is a cause of pyæmia. His own language on this point is that "pyæmia consists in the transformation of the blood into pus within the capillaries and veins. It is not pus that forms metastatic abscesses, but, with fibrinous flocculi, they give rise to stasis and transformation of blood in the capillaries, and exudations from these which result in the abscesses." According to Dr. Gluge, it is impossible for pyæmia to originate by absorption through lymphatics, "because the pus-corpuscles cannot penetrate their parietes."

But we must bring this short notice to a close. That all that this volume contains is in keeping with the received opinions of the day, we unhesitatingly say we do not believe. But that we have here observations which, so far as they go, may yet be confirmed, we have every reason to believe. The additions of the Editor and translator are many and valuable. The typography and artistical execution of the plates is all that could be desired.

ART. XII.—*Recherches sur les Calculs de la Vessie et sur leur Analyse Micro-Chimique.* Par SAMUEL LEE BIGELOW, né à Boston, U. S., DOCTEUR EN MÉDECINE, etc., etc., Paris, 1852. *Inquiries into Calculi of the Bladder and their Micro-Chemical Analysis.* By SAMUEL LEE BIGELOW, M. D., &c., of Boston; Paris, 1852.

THE Thesis of Dr. Bigelow, presented to the Faculty of Medicine, Paris, for the degree of Doctor in Medicine, was based upon an examination of over four hundred vesical calculi in the Museum of Dupuytren. Besides

resorting to the usual mode of chemical analyses, the author superadded the microscope, which greatly simplified and facilitated his examinations. The chief merit of this essay consists in the prominence given to this fact.

The microscope renders chemistry useful to the physiologist and physician, by giving a special form to those elements which are too small to be examined by the naked eye, or to be reduced by the chemist. By rendering visible the action of chemical reagents upon these minute bodies, it is possible to establish their identity with the same precision, as when the chemist employs large bodies to make the results visible to the naked eye. Thus it enables the practitioner to make analyses at the bedside of the patient, and daily determine the increase or diminution of elements, such as the oxalate of lime, uric acid, the urates, &c., which existing in abnormal quantity, constitute, according to the predominant element, the calculous diathesis. A single example will suffice to demonstrate the delicacy and exactness of this means added to chemistry. What chemist could determine, by a purely chemical analysis, the existence of the two elements, potassa and soda, in a single drop of water, taken from a solution of one-eighth of a grain of potassa, and one-sixteenth of a grain of soda, dissolved in one hundred grammes of water? With the aid of the microscope and the chemical reagent, chloride of platinum, it is possible not only to distinguish both substances by the difference in the forms of their crystals, but even to make an approximative quantitative analysis, with this single drop of the solution.

The microscope which Dr. Bigelow recommends for these studies is that invented by Prof. J. Lawrence Smith, of the Louisiana University, which permits the employment of chemical agents without injury to the object glasses of the instrument. This is a desideratum in micro-chemical investigations which has not until recently been obtained.

Dr. Bigelow treats his subject under the following heads: 1. The composition of Vesical Calculi; 2. Classification of Calculi; 3. Micro-Chemical Analysis of Vesical Calculi; 4. Micro-Chemical Analysis of their proximate elements. In the first two chapters, nothing material is added to the knowledge of urinary deposits, which we already possess in the works of Scharling, Marcet, Jones, Taylor, &c. The last two divisions, which teach the application of the microscope to these investigations, will repay a careful perusal. By this extension of the field of microscopy, a most important step is taken in advance, and we do not think the author is too sanguine in his anticipations, that the most brilliant discoveries in organic chemistry are to follow the union of these two powerful means of minute analysis.

An atlas of plates accompanies the thesis, representing most of the precipitates which came under his observation. They are drawn with

great minuteness and accuracy, and their artistic finish is in the highest degree flattering to the skill of the artist. Dr. Bigelow indicates that he has in contemplation the preparation of an elaborate work on the physiology and pathology of the urine, the materials of which are already collected. We would encourage him in his undertaking; such a work, completed in the spirit presaged in this essay, would be a valuable contribution to medical science.

ART. XIII.—*Tenth Report to the Legislature of Massachusetts*, relating to the Registry and Returns of Births, Marriages and Deaths, in the Commonwealth, for the year ending December 31, 1851. By AMASA WALKER, Secretary of the Commonwealth. Boston, 1852.

THIS document is the highest evidence we could ask of the enlightened legislation of the State from which it emanates. It demonstrates conclusively the immense importance of Registration Acts, for the purpose of obtaining correct knowledge of the condition of public health, and the prosperity of the State, and we would commend it to the careful consideration of *our* State Legislature, before it decides upon the repeal of the Act of 1847.

This report was made under the superintendence of Dr. Josiah Curtis, of Boston, and as it covers the eleventh year of registration, the statistics are deemed sufficiently extensive to draw reliable conclusions, some of which we purpose to notice. One of the most important elements in the increase of the population of the State, is the influx of foreigners; thus, twenty years ago, there was one foreigner in every one hundred of the population; while in 1850 about one out of every six inhabitants in the State was of foreign origin. Of the births and marriages in several of the large towns during the three years 1849–50–51, those of foreign origin were nearly two to one over the natives. The whole number of births presented in the returns for 1851, was 28,681; of which upwards of thirty per cent. were of foreign parentage; the number of marriages was 11,966, embracing 23,932 persons. This increase in the number of births and marriages over previous years, is set down as fair evidence of general prosperity. In 1851, there were 18,934 deaths, or one-eighth per cent. of the population. The percentage of deaths from *zymotic* diseases (epidemic, endemic and contagious), was 28.06, the aggregate for ten years being 30.42. First on the list of this class of diseases is *Cholera*. Of the 707 who had the epidemic cholera in Boston in 1849, only 96 recovered, while 611 died; it is this fatality which excites alarm. Next to cholera in this group of zymotics, is *Cholera Infantum*, which forms 2.09 per cent. of the mortality of the year; nearly

all the deaths being under five years of age. *Diarrhœa* is not a fatal disease, causing but 1.09 of the mortality in the ten years previous. "*Dysentery* has been extremely fatal in our State, when compared with other places, especially in England. It caused 802 in every 10,000 deaths during the ten years 1841–50, and 913 in every 10,000 in 1851. It ranks far above any other disease of the zymotic family. Between May 1, 1848, and December 31, 1850, it produced no less than 9,126 deaths; and this in a population of less than a million of people." *Erysipelas* has been on the increase. *Typhus Fever* prevails yearly, and its victims always exceed 500: in 1851, the number was 773, or 4.22 per cent. of the deaths of the year. *Influenza* is not known as a fatal disease. *Measles* has caused about twice as many deaths during the late years of registration. *Scarlet Fever* has diminished from 4.37 to 2.12 per cent. during the decennial period in 1851. *Smallpox* was more fatal in 1851 than during the two previous years.

The diseases of the *respirative organs* rank next in fatality to the zymotics, and of these *consumption* and *pneumonia* comprise nearly all the fatal cases.

Consumption stands far above every other destroyer of human life in our climate. It has removed from the citizens of Massachusetts, more then ten persons every day during the last three years. It exhibits no partiality, unless it be to select its victims from the fairest and most promising. It is confined, however, to no class of persons, no age, or season, or locality; united with its congener, pneumonia, they have caused a trifle more than one death to every three from all other causes combined, in the State, during the whole period of registration. The Asiatic cholera visited our State only during a few months of a single year; and yet, in that brief space of time, it filled every mind with anxiety and consternation. Its prevalence was principally confined to the lower classes of society, and yet it cost the city of Boston alone, in which there were only 611 deaths, over $28,000. When has consumption, this much severer and more universal, ever present life-destroyer, received so much attention? It numbered nearly 4,000 victims in the single year of 1851, and over 11,000 in the last three years. Cholera is supposed to have imparted much of its terror from its very extreme fatality among those attacked; but in this particular it is much below consumption, which is almost universally certain of its victim when it once attacks. In Boston, in 1849, six persons died of the cholera out of every seven who had it. Not one in a hundred persons, once afflicted with pure consumption, ever recover. * * * * * * * In Connecticut, it produced during the three years, 1849–51, fully twenty per cent., of all the deaths. In the state of New Jersey, it produced, in 1851, 832 of the 4,023 deaths from specified causes, being over twenty per cent.

The occupation most favorable to longevity is agriculture, the average age of this class of inhabitants being 64.02; we must except, however,

pauperism, for according to the tables embracing a period of nearly eight years, the average age of paupers was, 67.52, being nearly the scriptural term of life; seamen reach the lowest average, 43.07, being 24.45 years shorter lived than paupers.

But we cannot further follow out the interesting details of this report. Its tables are of the highest importance, as they show "in rugged and unmistakable outlines, that large numbers of valuable lives are sacrificed annually in the States, which, with proper sanatory improvements, that could readily be named, might have been saved!" The intelligent author of the report pertinently adds, "what arithmetic can calculate the advantages upon the public, especially in our cities and more densely peopled villages, of a complete system of health measures, such as it is within the province of legislators to require, and in the power of the people to adopt."

ART. XIV.—*Abstract of Report*, By JAMES WYNNE, M. D., on Epidemic Cholera, as it prevailed in the United States in 1849 and 1850. London, 1852. 8vo. pp. 93.

THIS report forms an appendix to the report of the General Board of Health, on the Epidemic Cholera of 1848-9, presented to both Houses of Parliament. The author has given a very fair history of this terrible epidemic, as it prevailed in the United States in 1849 and 1850, beginning with its introduction at New York and New Orleans, and tracing the several steps of its progress over the entire country. The source from which he derived his facts, was the medical periodicals and the reports which have been made by physicians of the different localities where it prevailed. The most interesting feature of this summary of the facts, in regard to this disease, is the evidence which they afford of its non-contagiousness.

It appears, therefore, Dr. Wynne concludes, upon a careful and minute examination of all the circumstances connected with the spread of cholera from place to place, that in no single instance, is there any evidence furnished by first cases, when the disease could be most easily traced, to show its introduction by direct contagion or personal communication; but, on the contrary, all these circumstances tend to establish the existence of some other and more potent morbific agency.

In forming an estimate of these facts, it must be taken into consideration that they are the accumulated experience of many observers, looking at the subject under different phases, and frequently with preconceived notions; yet, notwithstanding all this diversity of opinion, which must necessarily have existed upon a disputable question, and which they have expressed in a manner too clear to leave room for conjecture, their united evidence when summed up, goes to establish the fact, that the spread of cholera is in nowise dependent upon contagion.

PART THIRD.

FOREIGN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

Clinical Lecture on Dyspepsia. By Prof. J. H. Bennett, of the University of Edinburgh.—Case I.—*Dyspepsia.*—James Scott, æt. 51, admitted 27th September, 1852. He states that, about three months previous to admission, he experienced severe shooting pains darting from the left scapula to the epigastrium and left hypochondrium. For many years back he has been much addicted to intemperate habits, and latterly the appetite has been considerably impaired. On admission, the tongue is furred, and cracked in the centre; he has almost constant sour taste in the mouth, worse in the morning after taking food; frequent acid eructations; bad appetite, and considerable thirst. About a quarter of an hour after meals he experiences a feeling of heat and pain in the epigastrium, with acid eructations and flatulence; the latter also troubles him during the night, when the stomach is empty. These symptoms continue generally for about an hour and a half, when they gradually abate, and soon after disappear entirely. He then again takes food, and the symptoms return in about a quarter of an hour afterwards, as already noticed. He does not think that one kind of food disagrees with him more than another. He has often much nausea and loathing of food, but no vomiting. There is some tenderness on pressure at a point about the centre of the epigastrium, where he states there is always more or less pain, generally of a dull, heavy character, but sometimes occurring in sharp twinges, shooting to the left scapula, and somewhat increased on pressure. There is no unusual hardness or tumor to be felt; and there is no dulness on percussion. There is no tenderness or enlargement of the liver; urine normal. He is of a very desponding disposition, and does not sleep well at night. Other functions normal.—℞. *Potassæ carbonatis*, ʒ ij.; *Tinct. gentian. co.*, ℥ i.; *Infus. gentian. co.*, ℥ v. *M. ft. Mist. Half a wine-glassful to be taken thrice a-day.*—Dec. 31. Still complains of flatulence and distention of the abdomen; considerable pain

in the epigastrium, increased on pressure.—*Applicentur hirudines*, iv., *epigastrio, et postea, foveatur.*—January 3. Appetite improved; still acid eructations, with sour taste in the mouth; pain in the epigastrium, relieved after the application of the leeches and warm fomentations. He is very desponding about his complaints, which he much exaggerates.—January 10. The sour taste and flatulence diminished; pain and uneasiness in the stomach much relieved; no tenderness on pressure; appetite much improved; no sickness or vomiting; bowels regular; stools natural. Dismissed, in order to return to his work. The diet ordered has been of a gentle, unstimulating, but nutritious kind.

Commentary.—In this case derangement of digestion depended on intemperate habits, and was accompanied by excess of acidity in the stomach. The treatment was directed to counteract this condition by alkalies, vegetable bitters, and a regulated diet, which, to a certain extent, succeeded. But all such cases require exercise, regular habits, and moral control, without which medical treatment is unavailing.

Case II.—*Dyspepsia—Oxaluria.*—John Millar, æt. 28, a type-founder, admitted December 26th, 1852. He states that he has always enjoyed good health, with the exception of occasional palpitation of the heart, until about eight months ago, when vertigo came on suddenly when at work, but disappeared in a few minutes. Since then, he has had many attacks of the same kind; and of late, these have been accompanied with pain and palpitation of the heart, and *tinnitus aurium.* Some years ago he was much addicted to drink, but for the last four years has been more temperate. On admission, the heart was found to be healthy, and the pulse natural. The tongue was dry in the centre, moist and white at the edges, with numerous transverse fissures. He had a disagreeable taste in his mouth in the morning, and no appetite for food; had never vomited, nor experienced pain in the stomach; bowels constipated. There was an anxious, haggard expression of countenance, and an evident tendency to exaggerate his symptoms; he complained of vertigo, tinnitus aurium, and muscæ volitantes. The urine, after standing some time, exhibited a slight deposit, in which numerous large crystals of oxalate of lime were visible on microscopic examination; sp. gr. 1028; otherwise normal. The other functions are normal.—℞. *Acid. nit.; Acid. muriat.* ā ā ʒ iss.; *Tinct. gent. co.*, ℥ i.; *Infus. gent. co.*, ℥ v. *M. A table-spoonful to be taken three times a day.*—January 8. Since last report, the oxalates have disappeared, the appetite has improved, the cardiac and cerebral smptoms are removed, and he was dismissed cured.

Commentary.—Dr. Golding Bird was the first to point out that oxaluria, associated with dyspepsia, was a very common disorder, and that its treatment by nitro-muriatic acid was the most successful one. The oxalic acid is probably derived from urea or uric acid, and its presence in the urine is often associated with or alternates with these compounds. No doubt the tonic treatment practised in the above case is the best mode of relief, but here also a regulated diet, with exercise and mental occupation, are necessary to render permanent any benefit that may be derived from treatment.

Case III.—*Dyspepsia—Hypochondriasis—Oxaluria.*—Thomas Pollock, hawker, æt. 24. Admitted 25th December, 1852. He says that, three years and a half ago, when stooping down in a field during a dark night to evacuate his bowels, he felt a sharp, hard body, like the stump of a shrub, penetrate his anus, causing acute pain, which continued for a fortnight, and has occasionally returned ever since. No blood passed at the time, but he has been under the care of various medical practitioners, and undergone numerous kinds of treatment. He has never had diarrhœa; but is addicted to masturbation. He has consulted the numerous works advertised in the papers on manly vigor, etc., but has derived no benefit from them. On admission, tongue moist, but furred, cracked, and fissured in the centre; says he experiences a feeling of load after taking food, with occasional nausea. He has no vomiting, but an acid and sometimes a disagreeable taste in the mouth; frequent flatulence and constipation, for which he is in the habit of taking aperient medicine. On placing the hand on the epigastrium, he says that there is soreness beneath the xiphoid cartilage, increased on pressure. Has occasional involuntary emissions of semen. The urine contains a slight sediment on standing, which is crowded with large and small crystals of oxalate of lime; sp. gr. 1020°; otherwise normal. Sleepless at night; anxious and desponding about his complaints, which he attributes to the accident formerly mentioned, although it produced no local effects at the time, nor any structural change since. Says that he has frequent vertigo, tinnitus aurium, muscæ volitantes, and cephalalgia. The other functions are normal.—℞. *Acid. nitrici; Acid. muriat. ā ā*, ʒ i.; *Tinct. gent. co.* ℥ i.; *Infus. gentian. co.*, ℥ v. *M. A table-spoonful three times a day.*—January 3. He has continued to take the acid mixture, but does not admit that he is in any way better. On the 2d, the oxalates disappeared from the urine, and were replaced by a copious deposition of amorphous lithates.—*Omitantur mist. acid.*—℞. *Liquoris potassæ*, ʒ ij.; *Tinct. cardamom. co.*, ℥ i.; *Infus. quassiæ*, ℥ vii. *M. Two table spoonfuls night and morning.*—January 4. As he still continues to complain of pain in the sacral region, which he attributes to the accident, *a blister, three inches by four, was ordered to be applied there.*—January 10. Since the application of the blister, the pain in the sacrum has disappeared. He expresses himself as being much better, and was dismissed.

Commentary.—In this case the presence of oxalates in the urine was associated with the same class of symptoms as in the former one, but the tendency to exaggerate his complaints was more marked, and there was a firm belief in their being caused by an accident, which possibly never happened; and if it had, could not have occasioned them. The acid and tonic mixture removed the oxalates, but lithates took their place in the urine, which, in their turn, were got rid of by alkalies. Still, the fixed idea as to the cause of the disease continuing, he seemed no better. A blister was now applied to the sacrum, when he readily adopted the idea that his local complaints disappeared with the pain of the blister, and he became cheerful and well. No case could better illustrate the effects of mental depression on the digestive organs than this. For a period of three years he had been the subject of delusion and genital irritations,

which had been kept up by the study of those wretched publications, which, to the disgrace of the newspaper press, are daily advertised to the people as the only means of restoring vigor to the constitution. At length, satisfied of their inefficiency, he entered the Infirmary; the error of his practices was kindly pointed out to him, nutritious diet, regular habits, and tonic treatment were obviously beneficial; and fortunately his hypochondriasis yielded to the simple expedient of substituting real for supposed pain, and leading him to suppose that the one had cured the other.

General Pathology and Treatment of Dyspepsia.—By Dyspepsia is generally understood, all those functional derangements of the stomach which are primary in their origin, that is, not dependent upon, nor symptomatic of, inflammation or other disease in the economy. Such a disordered condition is exceedingly common, and often constitutes the despair of the physician, arising, as it frequently does, from causes which are often obscure, or, if discovered, are beyond his control. This will become apparent by considering, in the first place, those circumstances which require to be united to secure a healthy digestion. These are,—1st. A proper quantity and quality of the ingesta. 2d. Sufficient mastication and insalivation. 3d. Active contractility in the muscular coat of the stomach. 4th. Proper quantity and quality of the gastric, biliary, and pancreatic fluids. 5th. A consecutive and harmonious action of the intestinal canal. Dyspepsia, or indigestion, may be produced by any cause which occasions derangement of one or more of these conditions; and hence why so many different circumstances may produce somewhat similar symptoms, and why so many different remedies have been found effectual in various cases. Notwithstanding that you will frequently meet with instances which baffle all preconceived rules, there can be no doubt that a careful attention to the essential physiological conditions above enumerated, will, in the great majority of cases, conduct you to a successful rational treatment. Thus,—

1. Of all the causes of dyspepsia, excesses in eating and drinking are the most common. An over-distended stomach, or too rich a meal, not unfrequently induces a feeling of weight or fulness in the epigastrium, nausea and eructation of acid, bilious or gaseous matters, with a loaded tongue, headache, and other general symptoms. This is acute dyspepsia, or the *embarras gastrique* of the French. Occasionally, there is more or less vomiting of bilious matter, when the attack is vulgarly called a *bilious seizure.* If called in to such a case, immediately on its occurrence, and before the ingesta have left the stomach, as determined by the sense of load at the epigastrium, an emetic should be given; but if vomiting be present, it should be assisted by warm diluents. As soon as the stomach is quieted, or, if you have been called in at a late period, when the ingesta have passed into the intestines, a purgative pill should be administered, consisting of four grains of calomel, with four of compound extract of colocynth, followed in a few hours by a purgative draught of salts and senna. If necessary also an enema may be given. The purging, with a day or two's confinement to farinaceous food, will generally

get rid of such an attack; but their frequent repetition leads to the chronic form of dyspepsia, when careful regulation of the diet with exercise, must constitute the chief treatment. Hence the advantage of what is called "change of air," and much of the benefit which is derived from watering-places. Chronic dyspepsia, however, is far more commonly caused by excess of spirituous and vinous drinks, than by eating, when abandonment of the evil habit is a *sine qua non* in the treatment. Tea drinkers are very liable to the disease, and its frequency among female servants is probably owing to this cause.

2. It may frequently be noticed, that those who have acquired the habit of eating rapidly are more or less dyspeptic. I knew a journeyman printer who was much tormented with indigestion, but who was cured by changing his residence. The cause of this was for some time a mystery, but on again changing his house the disease returned, although no apparent cause could be discovered. I ascertained, however, that it depended not on the locality *per se*, but on its distance from the printing-house. When far off he ate his dinner with his family rapidly, having only just time enough to walk home and back within the hour. When he lived near, the time otherwise spent in walking was occupied in eating, or in cheerful converse with his wife and family. Since I made this observation, it has often occurred to me that the distant residences of artisans from their place of employment may be the occasional cause of the dyspeptic symptoms they frequently possess. With regard to the exact object of the saliva in the process of digestion, whether it be to convert the farinaceous compounds of the food into glucose, or, by its viscidity, to mix up air with the portions swallowed, is not positively determined; but its necessity for the digestion of man is shown by cases where the under lip has been lost by accident or disease, and where salivary fistula has formed, in which dyspepsia is generally present, and in which the disordered digestion has been cured by operations that, by restoring the parts to their normal condition, prevent the escape of saliva. Again, persons habituated to the dirty habit of spitting, are for the most part dyspeptic; and it has been asserted that the pale countenances of the inhabitants of the United States and the leanness of their persons are owing to this cause. In all cases where dyspepsia can be traced to this source, the treatment must be obvious.

3. The contractile movements of the stomach, which, by kneading the ingesta, and keeping them in constant motion, secures an intimate admixture with the gastric juice and the rapid transference to the duodenum of such portions of it as are transformed into chyme, are evidently of immense importance to a proper performance of digestion. The experiments of physiologists have shown that digestion in gastric juice out of the stomach is much slower than in it, and that section of the pneumogastric nerves, by arresting the contractile movements, only permits the circumference of the mass in contact with the secreting surface to be digested. These facts at once explain the well-known influence of mental emotions upon the stomach. Contentment and hope are as favorable, as dissatisfaction and despondency are opposed to, good digestion. Nothing is more common than dyspepsia among literary men who overtask the

mental faculties; among young persons of very excitable minds; and among individuals of a melancholy temperament, hypochondriacs, etc., etc. It is in such cases that cheerful society, active and appropriate occupations, change of scene, removal from mercantile or literary employments, different trains of thought, and so on, are beneficial. Hence also many of the good effects of travel, visiting watering-places, etc., etc.

4. Our knowledge with regard to the offices performed by the gastric, biliary and pancreatic juices in digestion has of late years been much advanced. Thus the gastric juice more especially operates on the albuminous, and the pancreatic juice on the fatty compounds of the food. The function of the bile is perhaps more obscure, although it probably acts as a means of precipitating or separating some of the excretory matters from chyme, and so facilitates assimilation of the nutritive portions. Digestion may be deranged by all those causes which too much increase or diminish the secretion of these three fluids. Thus excess of acidity in the stomach is one of the most common causes of dyspepsia, producing that form of it which accompanies scrofulous and tubercular diseases. It may be in such excess as to neutralize the alkaline action of the pancreatic juice, and render it difficult or impossible to emulsionize fatty matters. In such cases, alkalies, with bitter tonics and the direct introduction of animal oils in excess, are indicated. On the other hand, the gastric juice may be diminished in quantity, as frequently occurs in persons who suddenly overtask the powers of the stomach at feasts, or in old persons with feeble digestion. The sense of load after eating is generally indicative of slow digestion from this cause. In acute cases, a stimulant rouses the stomach to increased action, and hence the moderate use of drams and generous wines after dinner is occasionally useful. In old persons the sense of load and feebleness is best removed by giving up tea, and drinking at night a little weak brandy and water. In chronic cases, acids are indicated, especially muriatic acid. *The Tr. Ferri co.* of the Pharmacopœia is a useful preparation in chlorotic females. We have no distinct means, as far as I am aware, of rousing the pancreas into action, and yet many cases are on record in which fatty matters have passed undigested through the alimentary canal in consequence of obstruction to the pancreatic duct. In such cases, and all those in which fatty matters are difficult to digest, alkalies, especially the liquor potassæ with vegetable tonics, are indicated. When the bile is deficient, constipation and dyspepsia are usual results, and are to be relieved by gentle mercurial purgatives, with extract of taraxacum, and by remedies, such as rhubarb and especially the compound rhubarb pill, which, by acting on the duodenum, also favor the flow of bile into the upper part of the alimentary canal. Dr. Clay of Manchester has recommended in such cases the administration of ox-gall, a remedy, which, although not extensively given, is evidently rational, and calculated by its purgative action to be highly serviceable. Excess of bile, on the other hand, ought to be treated by drastic purgatives, diuretics and diaphoretics, according to circumstances, to cause excess of excretion. Exercise should also be insisted on to call the lungs into action, and thus relieve the liver in its office of separating hydro-carbon.

5. A derangement of the consecutive and harmonious action of the alimentary canal is another frequent cause of dyspepsia, for it is as necessary that those portions of the food which are not assimilable should be removed out of the economy, as that the nutritive materials should be absorbed. Hence whatever impedes the contractility of the intestinal canal, whatever alters the structure of its mucous membrane, or whatever mechanically obstructs its calibre, may always be observed to induce dyspeptic symptoms. The removal of these various conditions, whether by stimulating the nervous centres, by appropriate diet, or by purgatives and astringents, as they may be required, need not be more particularly dwelt upon.

In many cases of dyspepsia, two or more classes of these causes may be combined, so as to render the indications for treatment complex and apparently contradictory. In other cases, one or more causes may exist, although from the indications presented they cannot be determined, when our treatment must always be more or less vague and unsatisfactory. Lastly, there are a few instances where dyspepsia can only be explained by *idiosyncrasy*, in which we find this or that particular article of diet to derange the digestive functions, and in which avoidance of the offending cause is the only plan that is attended with success.—*Month. Jour.*

On Irritable Bladder in Children. By Christopher Fleming, M. D.—Irritable bladder occurs much more frequently in young children than would at first sight appear, and this, where the irritability is not the consequence either of inflammation or of organic disease, although occasionally attributable to some abnormal defect. The mother or nurse of the child so affected states that the child is constantly applying the hand to the organs engaged; that it appears to suffer pain during micturition; that the act is frequent; that it is urgent, but when the urine has passed off the child appears relieved; that often, if the urine falls on the floor or clothes, it rapidly becomes muddy and whitish, and it is even stated by some, that it is so at the moment of being passed; that when the child sits down for such purpose, it has an inclination to remain longer than is requisite, and in some cases, that there is a disposition to prolapsus of the rectum, from the forcing and straining attendant, and very frequently a discharge of bloody mucus from the rectum takes place; that these symptoms have continued for some time, notwithstanding the exhibition of medicines to regulate the bowels and produce other ordinary effects; that the child is losing strength and wasting in flesh; that the appetite is most precarious, and that there is a great desire for drink; that the quantity of urine passed is very variable, sometimes deficient; that its quality is equally changeable, at times being pale, at others, deep in color, and again, clear and often muddy, and with copious sediment.

If accurate inquiry is now instituted, it will be found, that many such children are born of gouty parents, or of persons much subject to dyspepsia, and that they are children whose diet and habits of life are irregular; and in the humble walks of life that they are, in addition, irregularly clad and irregularly cleansed: such are by no means of unfrequent

occurrence. The quantitative and the qualitative analysis of the urine satisfactorily explains the symptoms; and attention to the physical condition of this secretion, to its chemical constitution, and to the appearance of the deposits—particularly the deposits of rest—assisted by the microscopic characters of the latter, point out the curative indications which are suitable to each variety of case. It is beyond all manner of doubt, that, as in adult age, many practical hints can be taken from attention to the general constitution of the urine in the surgical diseases of these organs, and that in the child the normal essential constituents of this important fluid may be increased or diminished, and that abnormal ingredients may be superadded. We have here the lithic, the oxalic, and the phosphatic diatheses, and each has its special influence. In fact, with few exceptions,—and the presence of sugar in the urine of children is one worthy of note,—there is no derangement of the urine found in the adult which I have not also found in the child, in its most exaggerated form, both as regards the disproportion between its normal constituents, and the introduction of abnormal substances. I feel perfectly satisfied that attention to these details, as subsidiary means, will be found of value in the diagnosis and treatment of many of the diseases of children, and especially in those cases of cerebral complication which so repeatedly puzzle the practitioner, and where the quantity of this secretion, on the one hand, is materially diminished, or, on the other, increased.

With a view to the practical study of the morbid condition of the urine, as auxiliary to the diagnosis and treatment of diseases of the urinary organs in the child, I find it difficult to condense my remarks so as to avoid the introduction of any irrelevant matter, and at the same time to escape the charge of an attempt to undervalue those more minute particulars to which, justly, much importance is attached. In my lectures on these subjects, I have been in the habit of directing attention to the color and smell of the particular specimen under examination, to its chemical reaction, and to its density; and I have always attached very great importance to the *deposit of rest, as to shade and outline*, and to the transparency or otherwise of the supernatant fluid. From an analysis of these several leading features of urine I have derived the greatest advantage, and even, in the absence of any microscopic examination, have been enabled to decide in very many cases, with sufficient certainty for practical purposes, on the peculiar nature of the deposit. Of course in some, particularly the "non-crystalline organic deposit," the assistance of the microscope is often indispensable; but in children they do not constitute the majority of the cases met with. As attendant on the "irritable bladder," I would say that, according to the classification of urinary deposits by Golding Bird, those of uric acid, and the urate of ammonia, and of oxalate of lime are particularly frequent in occurrence; and that, next in order of frequency are conjointly or separately with these "the non-crystalline organized products," such as blood, pus, occasionally mucus, but very often indeed vibriones. It would be too great an occupation of space and of time to enumerate the many cases I have witnessed, as illustrative of these statements; they are of almost daily occurrence. I do not deny that phosphatic deposits are to be met with,

but these deposits do not occur, under ordinary circumstances, as a substantive deposit in the urine of children. The prisms of the neutral triple phosphate are to be seen conjointly with the crystalline deposits above specified, just as in adults, but it is very rare indeed to meet with them as solitary deposits, although so frequent in advanced life; and it is equally rare to find them combined with that physical and chemical condition of urine almost necessarily present under such circumstances. Indeed I find it difficult to bring to my recollection—unless under the most aggravated form of vesical and renal disease, complicated with phosphatic calculus in the child—that excessive secretion from the mucous membrane of the bladder which takes so very prominent a part in the formation of such deposit in advanced life. Amongst the numerous cases of urinary disease I have witnessed in the child, such is excessively rare, and it is equally rare as a symptom of calculus in the child. There was in one case a source of deception, which was by the merest chance unfolded to me, and which, perhaps, may be noted as confirmatory of Sir Benjamin Brodie's opinion as to the special source of those phosphatic salts in the urine.

In May, 1852, a boy, aged three years, was brought to my study by his mother, in great alarm from the suffering the child had endured for some weeks in passing urine. There was frequency and urgency, and so much forcing and straining as to produce distressing prolapsus ani. The urine was largely loaded with lithates, and contained a remarkably tenacious mucous deposit, deeply colored with blood, and adherent to the glass. I found in it numerous blood discs and large crystals of the triple phosphate. Symptoms not improving, I felt justified in sounding the child, which I did with a silver catheter, and whilst the urine was escaping, a severe paroxysm, resembling a fit of the stone, occurred, during which a considerable quantity of gelatinous mucus escaped from the rectum. I collected the urine drawn off through the catheter in one test-glass, and the discharge from the rectum in a second. The urine was acid, the latter alkaline; the former was loaded with lithates interspersed with some crystals of oxalate of lime, the latter, in addition to mucus, blood globules, and epithelial scales, was studded with large, distinct, triple, phosphatic prisms. I merely mention these details incidentally, as interesting and not unimportant phenomena, and particularly in connection with the statement of Sir Benjamin Brodie already alluded to. They were to me then novel, and I took the opportunity of showing the microscopic appearances and the specimens to my colleague, Dr. Hutton. I have since been enabled to confirm them.

I have said that the lithic acid and lithate of ammonia deposits, and also that of the oxalate of lime, are the most frequently met with in children, and they will be found to be productive of most decidedly distressing urinary symptoms. I have often found these deposits present conjointly; very often the oxalate of lime and the urate of ammonia, the latter cloaking the former, unless carefully looked for. I have found the red sand, as the lithic acid is sometimes termed, in the child, but it is far more frequent to find the colorless, or nearly colorless, crystals of lithic acid, and all are met with of every variety of shape and form, and

they are to be seen in the children of the poor as well as of the rich; and really it does not appear that diet very materially influences their presence or their character. I have a boy, aged about 7, now in hospital, with suspected calculus in the bladder, and in him numerous crystals of pale lithic acid exist in combination with oxalate of lime; whilst in another ward in the same hospital, there is a boy, somewhat about the same age, a patient of Dr. Hutton, in whom the red sand is visible to the naked eye in the test-glass, floating through the urine, and under the microscope the deep orange crystals are to be seen distinct, and in large aggregated masses. It is in this class of deposits, and in that of the oxalate of lime, that the surgeon requires to be more circumspect, as the physical and chemical characters of the urine are often not remarkable. The color is in such cases often pale; the density very low, so low as 1007 to 1010; the deposit a mere tomentous, semitransparent cloud, but one which will not escape detection by the practised eye. The suffering experienced in some cases of this nature is really very great; and if the child happens to have a long narrow prepuce, or an abnormal opening in the urethra, he may be put to unnecessary torture from inattention to the morbid state of the urine. I have known such cases:—one, a fine child, the only son of a fond father, who lived freely, and thought the child could not do better; the other, a boy aged three years, with hypospadias, from which the child had not previously experienced any visible inconvenience. In each the usual traces of symptoms of irritable bladder existed; in each, the ordinary clear condition of urine diverted attention from the examination of its actual state; and in each, its normal restoration caused the subsidence of all annoyance. I do not dwell on the lithate of ammonia deposit; its characteristic appearance is too obvious to require any comment. I shall merely add in conclusion, as regards it and the other crystalline deposits noted, that when from their continued presence they produce local or general irritation, they demand the watchful care of the practitioner to put rigidly in force those dietetic and therapeutic means which are laid down in systematic treatises on the subject; and if the symptoms do not yield to such treatment, he should search for some local cause either in the bladder or in some portion of the organs implicated; and he should also bear in mind, that such character of urine is the most likely to lead to the formation of stone in the bladder, as proved by its composition in the child, and by the fact of its being the most common attendant on its presence when found there; and that hence two practical lessons should not be lost sight of, namely, to alter, as quickly as can be effected, this morbid condition of urine, and to suspect the presence of calculus, should it be obstinate.—*Dublin Quarterly Journal.*

An Inquiry into the Action of the Anthelmintics. By Dr. Kuchenmeister.—1. Camphor. An ascaris lived from eighteen to twenty hours in albumen into which some camphor had been introduced. 2. A mixture of oil of turpentine and albumen killed some ascarides which were placed in it, in from two and a half to six hours. 3. Ascarides lived forty hours in albumen and wormseed, whether the latter was employed in the

form of powder or infusion. 4. Some ascarides were placed in albumen mixed with santonine; they did not die in it, nor did they die in a watery infusion of santonine. When santonine was dissolved in oil, especially in castor-oil, and mixed with albumen and ascarides, the latter died in ten minutes. An injection of santonine and castor-oil was thrown up the rectum of a cat, and produced numerous motions containing dead worms; and on killing the cat, the entire of the lower portion of the intestinal canal was ascertained to be free from worms, while four were found near the stomach quite rigid and extended, and retaining but little life. A *Tænia crassicolis*, however, was found in the intestines, and appeared to be quite uninjured and very lively. 5. A mixture of albumen and aniseed, with a strong infusion of the latter, killed the worms in about twenty-four hours. 6. Parsley, mixed with albumen, killed ascarides very slowly. 7. Flour of mustard and albumen destroyed them in about four hours. 8. In rue the worms lived upwards of twenty-four hours. 9. The same was the case with millefoil. In contact with tansy, valerian, and camomile, great numbers of them lived for twenty-four hours. With onions and garlic they perished in from ten to fifteen hours. A decoction of cloves, with or without albumen, killed them in twelve hours. In an infusion of ginger, with or without albumen, they lived about twenty-four hours. Petroleum, mixed with albumen, killed them in less than six hours, as did also oil of cajeput and albumen.

A series of vermifuges, taken from the class of balsamics, was tried in like manner, namely, asafœtida, ammoniacum, balsam of Peru, extract of juniper, and Venice turpentine. In all these the worms lived more than twenty-four hours. Of the class of empyreumatics (brenzlichen stoffe), the following were tried:—Oleum chaberti [a mixture of four parts of oil of turpentine, and one of the animal oil of Dippel], oil of amber, castor-oil, tar water, creasote, wood-vinegar, and wood-soot. In these, for the most part, the worms lived from twenty-four to forty-eight hours; except the wood-vinegar, in which they lived rather more than twelve; and creasote, in which they died within two hours. Of bitters, the author tried aloes, gamboge, ox-gall, wormwood, myrrh, gentian, quassia, hops, bitter orange, and acorus calamus; in all these the ascarides lived from twenty-four to forty hours. Of astringents, pure tannic acid, pomegranate root, kousso, extract of walnuts, cinchona bark and quina, elm bark, willow bark, the flowers and stalks of meadow sweet, oak bark, dragon's blood, catechu, and kino. In these the worms died in from twenty-four to thirty hours, with but two exceptions, namely, tincture of galls and pomegranate root, both of which killed them in the space of eleven hours. Of saline preparations, sulphate of soda, chloride of sodium, and the roe of the herring, were tried. In the first the worms died in from fifteen to eighteen hours; in the second, in from two to six; and in the roe of the herring, in four hours. The following metallic poisons were experimented on:—Arsenic, calomel, corrosive sublimate, and the salts of tin, of lead, and of copper. Corrosive sublimate alone destroyed the worms in so short a time as two hours; all the other metallic salts required a much longer period. From these experiments it would appear that santonine, mixed with oil, is the most powerful vermifuge, then chloride of sodium, the roe

of the herring, garlic, onions, &c. The author advises that santonine should be given as a vermifuge; mixed in oil, in the proportion of from two to five grains to an ounce of castor-oil. This solution should be given in the doses of a tea-spoonful until the effect is produced. As auxiliary treatment, chloride of sodium, herring-brine, mustard, onions, and garlic, may be employed.—*Dublin Quarterly Journal.*

History of the Furunculoid Epidemic—Chronology—Mortality—Pathological Characters—Causes, &c.—The year 1852 has been distinguished by two epidemic visitations, one of them appalling in severity, the other less destructive, but extraordinary, if not unique, in several respects. We allude to the *smallpox*, and the (so-called) *furunculoid epidemic*. On the present occasion we shall speak of the latter disease, tracing its chronology up to the end of 1852; next its territorial extent; and lastly, portraying its pathological character.

Chronology.—An epidemic of boils, carbuncles, and whitlows, particularly the latter, is described as having occurred as long ago as the year 1834, in the neighborhood of the Lower Pyrenees, among the soldiers of the 57th regiment of the line. This is noticed by M. Tholozan, in a paper recently read by him at the Société de Biologie, which has just been published in the *Gazette Médicale de Paris* of Jan. 1, 1853. He relates, that M. Marten, head-surgeon of the Hospital of Colmar, had seen several cases of this epidemic, and collected accounts of many more. Eleven cases of phlegmon of the hands and forearm had come under his own observation, and reports had reached him of one hundred and one similar cases, fifty-three of which occurred in 1834, and forty-eight in 1835. He likewise speaks of the contemporaneous occurrence of many cases of erysipelas, erythema, "eruptions dartreuses," "boutons hémorrhoidaux," abscesses in different regions, particularly in the limbs; boils, carbuncles, some cases of "charbon," and a tendency to phlegmonous gangrene, especially abscesses in the palmar aspect of the hand and fingers, extending along the upper and lower arm. Gangrene, exfoliation of tendons, and caries of bone, are spoken of as common occurrences. Emollients, narcotics, and general and local bloodletting, were often found powerless in the treatment. Free incisions were practised and proved frequently useless; the disease being marked by "a principle of malignity which paralyzed the effect of treatment." The epidemic disappeared in the winter, and reappeared in the following March. He attributes the disease (probably without sufficient reason) to high living, the abuse of spices and other stimulants, and to a high atmospheric temperature.

No further notice appears of this epidemic until the spring of 1851, when papers on the subject appeared in the *Medical Gazette* and *Lancet*. We shall endeavor to show, however, that a tendency to carbuncle existed, though in a limited degree, for five or six years previously. The following account is collected from a paper read at the Epidemiological Society, July 7th, 1852, by Mr. Hunt, from a notice by Dr. Kinglake, which has more recently appeared in the periodicals, from a pamphlet by Mr. Ludlow, and from various private sources. No statistical ac-

counts of this epidemic have yet been published, with the exception of those collected from the Registrar-General's weekly reports by Mr. Hunt. These, however, are confined to the *deaths from carbuncle*, which having been in this country the only fatal form of disease, may be taken as an index of its severity and prevalence in the metropolitan districts, to which the registry is restricted. We shall extend this inquiry to the end of 1852. The following table will convey all the information which can be obtained from this source. It shows the rise, progress, and advance of the mortality from carbuncle, up to the present time; and discloses important chronological facts.

Deaths from Carbuncle in the Metropolitan Districts, from 1840 to 1852 inclusive. The twelve years may be divided into three periods:—

In 1840, 41, 42, 43, the average was 3½ per annum.
1844, 45, 46, 47, " 8 "
1848, 49, 50, 51, " 18 "
Last quarter of 1851, 9 deaths; rate, 36 per annum.
First quarter of 1852, 16 deaths; rate, 64 per annum.
Second quarter of 1852, 5 deaths; rate, 20 per annum.
Third quarter of 1852, 16 deaths; rate, 64 per annum.
Fourth quarter of 1852, 11 deaths; rate, 44 per annum.

Single Years.

In 1846 were registered 3 deaths from carbuncle.
1847 " 15 " "
1848 " 20 " "
1849 " 15 " "
1850 " 19 " "
1851 " 19 " "
1852 " 48 " "

During the seven years previous to 1847, the average number of deaths was only four and a half per annum.

It also appears, that the epidemic of carbuncles commenced in the year 1847, and that, from that time until the summer of 1851, the deaths observed a general average of about four times the amount of the previous annual average of seven consecutive years; and that, during the year 1852, in which 48 deaths occurred, there were nearly three times as many deaths as the annual average of the previous five years, and nearly eleven times as many as the annual average of the seven years ending in 1846. The anthracic mortality during the severe epidemic of 1852, is thus distributed in the different months:—

	Deaths.		Deaths.
In Jan., 1852, were registered	8	In July,	4
February,	5	August,	2
March,	4	September,	10
April,	3	October,	3
May,	0	November,	5
June,	2	December,	2

In the present month (Jan. 1853), during the first two weeks of the month, there were no less than five deaths registered; which shows that the epidemic is still raging with as much malignity as ever.

This monthly table shows that, unlike the above mentioned epide-

mic in the Lower Pyrenees, in 1834–5, which disappeared in the winter, and reappeared in the following March, the visitation of 1852 has raged most severely in January and September, disappearing only in May. It appears, in short, to have been entirely unaffected by the temperature of the atmosphere; nor does its course appear to have been influenced either by the remarkable drought of the last spring, or not the less remarkable excess of moisture prevailing in the autumn.

Territorial Extent.—If the chronology of the furunculous epidemic is remarkable, its universal prevalence at one and the same time, in different quarters of the globe, is not less so. In England, it has prevailed not only in the metropolis, on both sides of the river, but in every part of the country, both inland and at the coast. Dr. Kinglake, physician to the Somerset and Taunton Hospital, says he has not only observed it in his own immediate neighborhood, but has put himself in communication with various medical practitioners in different parts of the neighborhood (represented by radii of twenty miles and upwards), who have all spoken to the fact of its extraordinary prevalence, in one or other of its forms, in each of their respective localities. Mr. Hunt reports, that he has seen it on the northern coast of Kent, and heard of it on the southern coast of Hampshire; that he has traced it to every part of the metropolis, to Oxford, Cambridge, Bristol, Manchester, and to several counties of England and Wales. In short, we shall feel obliged by a communication from any of our associates who have *not* met with it in any part of England, Wales, or Scotland. Tidings have reached us of its prevalence in Ireland and Scotland, in France and Austria. The American journals speak of it as common in New-York, Philadelphia, and Washington. In a letter from Dr. Bowerbank, of Spanish Town, Jamaica, dated 28th March, 1852, he says: "We have had numbers of persons suffering lately from boils, whitloes, and carbuncles. I see the same prevalence noticed in some parts of America." Private accounts have also reached us of its existence in the Cape of Good Hope; and, indeed, it has been present wherever our inquiries have as yet extended.

Pathological Character.—The epidemic appears to have assumed some shade of difference in various places and at different seasons, as to the precise form and locality of its development; and, among these, the following have been noticed by different observers, viz.: 1. *Carbuncles* of every variety and in almost every region of the body, often showing a remarkable tendency to gangrene; 2. *Furuncles* or *boils*, in every conceivable locality, varying much in size, and often appearing in rapid succession, from one to twenty at a time, for weeks or even months together; 3. *Whitlows*, chiefly superficial, attacking not one finger only, but sometimes several at one; 4. *Felons* (as they are called in America), that is, collections of purulent matter beneath the thecæ, or tendons of the palmar aspect of the hand or fingers, often terminating in gangrene or caries; 5. *Styes*, or purulent tumors in the tarsi; 6. *Ecthyma*, consisting of a number of small boils or pustules, appearing simultaneously or consecutively, on various parts of the body; 7. Superficial collections of purulent matter beneath the epidermis, in various regions, sometimes

commencing in vesications, and tending to ulceration. The carbuncular form of the disease often commences with a black central spot (*charbon*), which is not unlike the true plague-spot; indeed, two of the cases which occurred in St. Bartholomew's Hospital, both fatal, presented, Mr. Ludlow says, "several features of resemblance to the recorded instances of malignant pustule." This may account for the extraordinary mortality attending the disease, and which has prevailed in spite of free incisions, sometimes repeated, and careful constitutional treatment. The fatal cases appeared to have occurred chiefly, though not exclusively, in subjects of an advanced age. Thus, in the four deaths which occurred in one day in London, on the 18th of January, 1852, all the persons were about the same age, 68.

Like all the other epidemics, the carbuncular has been most fatal among the asthenic and needy portion of society; but the influence of the disease has pervaded all ranks. Mr. Cooper Forster, Surgeon to the Surrey Dispensary, in a paper of the *Lancet*, May 3d, 1851, describes the epidemic as varying in its development according to the class of society to which the patient belongs; those of the better class having been subject to *acne*, and having been cured of that complaint, becoming *again* the subjects of it; while the middle classes are described as visited with true boils in all parts of the body, in some few cases becoming carbuncular: but he has observed the carbuncle to be more common among the poor. The subjects of boils he describes as persons of all habits and constitutions, sickly and healthy, male and female.

Causes.—The etiology of all epidemics is involved in impenetrable obscurity. It seems to be the very nature of "pestilence" to "walk in darkness." The prevalence of boils has been attributed to diet, to temperature, to moisture, to drought; but the epidemic has prevailed under all diets, in all countries, at every season, in the temperate and torrid zones, in hot weather and in cold, in extraordinarily dry and in deplorably wet weather; and it is quite certain, that at present we are perfectly ignorant of any existing cause, proximate, remote, or even predisposing, for the existence all over the world, for years together, of a strange *tendency to the formation and discharge of purulent matter, chiefly on the surface of the body;* for in this consists the development of the disease. In cannot, however, be doubted, that there is some previously depraved condition of the blood, which is thus naturally relieved by elimination.

With one exception, no writer has yet described the epidemic as in any degree contagious. That exception, however, is important. The *Medical Gazette* for March 7, 1851, contains the report of a lecture delivered by Dr. Laycock, in the Medical School of York, on what the distinguished physician terms "a new exanthem," and which he afterwards describes as consisting of boils, which he believes to be the result of a contagious materies, originating in the first instance with brutes, and then transmitted from one individual to another, and not through the medium of the atmosphere. Dr. Laycock, in fact, believes it to be "strictly contagious;" but we are bound in honesty to confess, that we cannot discover in the report of his lecture any evidence of the soundness of this opinion.

To sum up the past history of this remarkable epidemic in a few words, we may call attention to the following points: 1. Its tardy and insidious commencement nearly six years ago; its sudden aggravation during the last fifteen months; and its steady and unmitigated prevalence up to the present time, unaffected throughout by meteorological changes, and varying but little in the various latitudes to which it has been traced; 2. Its universal and contemporaneous diffusion over every portion of the globe from which accounts have been received; 3. Its extremely rare fatality, probably not one in fifty thousand of those who are attacked falling victims to its virulence.—*Association Med. Journal.*

Tabular Statement of (Thirty-three) Deaths from Inhalation of Chloroform during Surgical Operations.—[We have been at no little pains to collect and arrange in the second table, an account of all the cases of deaths from chloroform, &c., which have occurred in this country. But in so doing we have not included those imperfectly reported or those in which the persons have taken it without the advice and aid of a professional person—these latter are manifestly cases of death by accident or suicidal, and therefore ought not to be included in an estimate of the dangers of a judicious administration of anæsthetics. That there have occurred cases which will not be found included in these tables we have no doubt; for in the search which we have instituted into our periodical literature we have found occasional allusions to cases, of which we could gain no particulars of sufficient importance to demand a place in the table which we have here constructed. As it regards the physiology, pathology, and treatment of the accident, we commend the remarks which precede and follow these tables, from the able pens of Dr. Cormack, the talented editor of the *Association Medical Journal*, Dr. Snow and Mr. Nunnely, to the careful perusal of our numerous readers. Eds. *N. Y. Jour. Med.*]

Among the now innumerable cases in which chloroform has been administered with the object of procuring insensibility to pain during surgical operations, (about thirty-three, *Eds. N. Y. Jour. Med.*) cases have been recorded (in Europe and America) in which death was the immediate result of its inhalation. We cannot suppose that all the deaths which have occurred have been made public; yet, even allowing the number to be doubled, the small proportion which they must bear to the total number of cases, shows that they supply no argument against the judicious use of chloroform; at the same time, they teach us the advisability of using at least moderate precautions when we employ so potent an agent.

We propose to exhibit the cases in a tabular form; and in so doing, we shall avail ourselves of the elaborate paper published by Dr. Snow, in the *London Journal of Medicine* for April, May, and June, 1852, adding such cases as we have met with in other journals since that date. We may also refer to Mr. Nunneley's numerous experiments and observations, published in the *Transactions of the Provincial Medical and Surgical Association* for 1849.

Omit the table

TABLE OF TWENTY-THREE DEATH

NO.	DATE.	NAME.	AGE.	OPERATION.	APPARATUS.	QUANTITY USED.	TIME WHEN DEATH OCCURRED.
1	Jan. 28, 1848.	H. Greener,	15	Toe-nail operation.	Table-cloth.	One drachm.	Two minutes.
2	March, 1848.	Patrick Coyle	—	Operation for fistula in ano.	. . . .	Thirty drops.	One minute.
3	—	Yo'ng woman	—	Amputation of distal phalanx of finger.	Handkerchief.	A Drachm.	Instantly.
4	May, 1848.	Mdle. Stock.	30	Opening an abscess.	Handkerchief.	A drachm and a half or two drachms.	Almost instantly.
5	1848.	C. Desnoyers.	22	Transcurrent cauterization of diseased wrist.	Apparatus.	Not stated.	Five minutes.
6	Dec. 7, 1848.	Young gentleman.	—	Intended toe-nail operation.	Not stated.	Not stated.	Almost instantly.
7	Jan. 24, 1849.	J. Verrier.	17	Intended amputation of finger.	Piece of gauze spread over face	About a drachm and a half.	Six minutes.
8	Feb. 20, 1849.	S. Bennett.	—	Amputation of toe.	Handkerchief.	Half an ounce.	. . . .
9	Aug. 23, 1849.	Madame Labrune.	—	Intended extraction of teeth	Handkerchief.	. . . .	Instantly on applying second supply to complete insensibility.
10	Oct. 10, 1852.	J. Shorter,	48	Toe-nail operation.	Inhaler (used by a non-medical person).	Not stated.	. . . .
11	Nov. 1849.	— Jones.	A girl.	Intended removal of eyeball.	. . . .	About a drachm and a half.	Instantly.

FROM CHLOROFORM, &c., IN EUROPE.

SYMPTOMS.	POST-MORTEM APPEARANCES.	REFERENCE.
Rigidity of muscles; pulse weaker; eyes closed, but on opening them they remained so; mouth open; lips and face blanched.	Lungs congested; epiglottis and larynx reddened; heart healthy, dark fluid blood in both cavities; very little in left. Brain rather congested. Liver, kidneys, and spleen, congested.	Lancet, 1848, vol. i., p. 161.
Signs of pain, by putting hand to part; sinking of pulse. Was suffering from phthisis.	Lungs tuberculous; pleura adherent. Heart enlarged, pale, and soft; ℥ij-iij of serum in pericardium; blood dark and fluid in vessels. Brain healthy.	*Ibid.*, vol. xliii., p. 682
Slight coughing; a few convulsive movements; instantaneous death; scarcely any bleeding from wound.	No inspection.	*Ibid.*, vol. xlii., p. 84.
Complained of choking; face pale; countenance changed; breathing embarrassed; foaming at mouth.	Lungs engorged in lower lobes; pulmonary vesicles dilated by artificial respiration. Heart flaccid, of usual size, empty. Brain firm. Blood thick. Air in veins generally, and in pulmonary artery.	*Ibid.*, vol. xlii., p. 211.
Not stated.	No account of inspection.	London Jour. of Med., May, 1852, p. 417.
Not stated.	No account of inspection.	*Ibid.*, p. 418.
Pulse at wrist ceased; respiration continued for a time, ceasing gradually.	Lungs very black. Heart flaccid and empty. Brain healthy; much black uncoagulated blood in sinuses. Blood fluid.	*Ibid.*, vol. xliii. p. 745.
No bleeding at end of operation. Inspiration noticed after pulse had ceased.	Lungs, trachea, and bronchi, congested. Heart rather large, flabby, auricles empty. ℥j of fluid blood in each ventricle. Nothing remarkable in head. Kidneys congested.	Lancet, 1849. vol. i., p. 205.
Countenance suddenly pallid; features altered; pupils dilated; convulsive rolling of eyes; failure of pulse.	No inspection.	L'Union Médicale, Sept. 8, 1849.
Struggled a minute, then became still; skin cold; pulse soon ceased; respiration became slow, and ceased, having continued after the cessation of the pulse.	No inspection.	Medical Gazette, vol. xliv. p. 757.
Not described.	No inspection.	*Ibid.*, p. 1007.

NO.	DATE.	NAME.	AGE.	OPERATION.	APPARATUS.	QUANTITY USED.	TIME WHEN DEATH OCCURRED.
12	Nov. 1849.	Young lady.	—	Intended extraction of tooth	Sponge, covered with a napkin.	Several doses.	Suddenly at commencement of sixth attempt.
13	Feb. 1850.	Artilleryman.	—	Amputation of phalanx of finger.	Handkerchief.	A drachm.	. . . .
14	June, 1850.	A. Scott.	34	Removal of portion of hand.	Napkin.	. . . .	A minute and a half.
15	Sept. 20, 1850.	James Jones.	24	Intended amputation below knee.	Lint, sponge, and towel.	A drachm, and afterwards half a drachm.	. . . .
16	April, 1851.	John Holden.	—	Intended operation on penis.	Handkerchief.	Half a drachm, ditto repeated.	Suddenly.
17	June 10, 1851.	Madame Simon.	36	Extraction of teeth.	Handkerchief.	About 50 minims.	Less than a minute.
18	July 8, 1851.	Thos. Hutton.	45	Extirpation of testis.	Handkerchief.	Seventy minims in four doses.	Soon after operation was commenced.
19	Oct. 1851.	Eliz. Hollis.	37	Intended operation for cancer of os uteri.	Handkerchief.	Eight or ten drachms.	Uncertain.
20	June, 1852.	Young man.	23	Ligature of arteries for aneurism by anastomosis.	Apparatus.	. . . .	About ten minutes.
21	May 22, 1850.	Man in Stockholm.	30	Intended operation for hydrocele and diseased testicle.	Cotton placed in cone formed of folded towel.	A drachm and a half: then a drachm.	About five minutes.
22	June 27, 1851.	Madame W.	32	Intended extraction of tooth.	Sponge in a handkerchief.	Twenty-five drops.	Very soon.
23	Aug. 10, 1852.	Mr. Martin.	—	Application of potassa fusa to ulcers in leg.	Not stated.	Not stated.	A few months.

SYMPTOMS.	POST-MORTEM APPEARANCES.	REFERENCE.
Stretched herself out, and foamed at mouth; died suddenly.	Lungs healthy. Heart soft and flabby, empty. Blood fluid. Brain normal; membranes slightly congested.	Medical Times, vol. ii., p. 230.
Face pale; pulse and breathing ceased.	Lungs emphysematous. Right cavities of heart contained fluid blood. Less blood than usual in sinuses of dura mater and in brain.	London Jour. of Med., 1852, p. 420.
Bleeding suddenly ceased.	Lungs, brain, dura mater, and kidneys, much congested. Heart feeble and flabby; not much blood in it.	Med. Gazette, vol. xlvi., p. 80.
Slight convulsive action of left eyelid; froth at mouth.	No inspection.	Dublin Med. Press, March 26th, 1851.
Not stated.	No inspection.	
. . . . .	Lungs somewhat congested, and emphysematous. Heart flaccid, of moderate size. Dark fluid blood, with some fibrinous clots, in both cavities; most in right. Chloroform found in organs by chemical process.	L'Union Médicale, 29th Jan., 1852.
Flow of blood, and pulse ceased; one or two deep inspirations after.	Lungs, dura mater, and kidneys, congested. Heart flabby and soft; contained but little dark fluid blood.	Medical Times, 1851, vol. ii., p. 98.
Not stated.	No inspection.	*Ibid.*, 1852, vol. ii., p. 620.
Sudden cessation of pulse; respiration continued; red color returned to face.	Lungs healthy, but collapsed. Right cavities of heart contained fluid blood; left very little. Blood everywhere fluid.	Medical Times and Gazette, 1852, p. 310.
Face and body pale; eyes rolled upwards and inwards; breathing became slow, and ceased.	Brain rather soft, slightly œdematous. Heart flaccid, of normal size; vessels on surface distended; left cavities empty, right, and great veins, filled; lungs posteriorly, larynx, and bronchi, congested. Blood every where thin and fluid.	London Jour. of Med., 1852, pp. 423. and 695.
Speech trembling; stretched out limbs; face livid; eyes haggard; head and arms fell.	Heart soft, flaccid. Organs much congested with fluid blood, containing air.	Gazette Médicale, Oct. 2, 1852.
Mouth and eyes open, breathing irregular, face pale, eyes turned slightly upwards, pupils dilated.	No examination.	Monthly Jour., Oct., 1852.

TABLE OF TEN CASES OF DEATH

NO.	DATE.	NAME.	AGE.	OPERATION	APPARATUS.	QUANTITY USED.	TIME WHEN DEATH OCCURRED.
24	Jan. 19, 1849.	John Griffin.	31	Removal of Hæmorrhoids.	Napkin.	. . . .	Eight minutes.
25	Jan. 1850.	Wm. Bryan.	—	Not stated.	A sponge.	About a drachm	. . . .
26	Feb. 23, 1848.	Mrs. Simmons.	—	Extraction of teeth.	Morton's Inhaler. (Sponge, partly filling a glass globe.)	Uncertain.	Five minutes.
27	Feb. 28, 1848.	A countryman.	—	Operation for fistula.	From a sponge.	Thirty drops.	A few minutes.
28	April 9, 1852.	Mrs. Norton.	24	Extraction of teeth.	From a sponge.	A drachm.	Fifteen minutes.
29	Aug. 8, 1852.	Hen. Keyser.	17	Amputation of finger.	From a sponge.	Two ounces of mixture of chloric ether and chloroform.	About ten minutes.
30	May 19, 1852.	Miss B—.	12	For removal of tumor of thigh.	From a sponge.	One and a half ounce of chloric ether.	About thirty minutes.
31	April 3, 1852.	Emile (a sailor.)	20	Extraction of toe-nail.	Sponge.	"Two ounces and five drachms."	Five minutes.
32	Oct. 2, 1852.	Mrs. Wynn.	27	Amputation of finger.	From sponge; afterwards handkerchief.	Three drachms.	Not stated.
33	Nov. 6, 1852.	A young man	—	Amputation of arm.	By a sponge.	Not stated.	About three hours.

FROM CHLOROFORM, &c., IN AMERICA.

SYMPTOMS.	POST-MORTEM APPEARANCES.	REFERENCE.
Excited; delirious. Muscles first rigid, then relaxed; face became livid; eyes upturned; pulse imperceptible.	Lungs congested, dark, exuded frothy serum on incision. Pericardium contained half an ounce of limpid serum. Heart flaccid, cavities all empty; left ventricle softened; blood fluid. Brain healthy.	New-York Jour. of Med. 1849, vol. 2, N. S., p. 230.
At first resisted; struggled for breath; inspiration soon stertorous and irregular, and in a few moments entirely ceased.	Verdict of jury: death caused by inhalation of Chloroform, more immediately owing to diseased state of heart.	Medical News and Lib., 1850, vol. 8, p. 22.
Face pale; muscles rigid; pulse feeble. Respiration and pulse stopped instantly. Face became livid; lower jaw dropped.	Lungs congested; bloody serum in each pleural cavity. Pericardium contained six drachms of bloody serum; heart flaccid; cavities empty; blood fluid. Bubbles of air in sinuses of dura mater.	Western Lancet 1848, vol. 7, p. 188.
The moment the cut was made, he started, and attempted to carry his hand to the anus. A slight convulsive movement ensued, and he was dead.	Lungs were full of tubercles and vomicæ; these, and not the Chloroform are believed to have caused death. Had inhaled it one month before with no unpleasant results.	Channing on Etherization in Childbirth. 1848. p. 113.
At first, respiration and pulse both regular; soon both became irregular and feeble; pulse suddenly ceased; respiration at longer intervals, and laborious. Soon ceased.	Rigor mortis strong. Lungs congested; bronchi filled with mucus. Heart flaccid, half ounce of fluid blood in right ventricle. Blood fluid throughout the body.	Boston Med. and Surg. Jour., 1852, vol. xlvi., p. 460.
Few heaving inspirations at long intervals; action of heart feeble; soon ceased.	No post-mortem examination.	Boston Med, and Surg. Jour., 1852, vol. xlvii. p. 54.
Came under its influence with difficulty. Respiration at first regular. Soon became feeble; and after a short time ceased. Pulse harply perceptible; soon ceased.	No post-mortem examination.	Boston Med. and Surg. Jour. vol. 47, p. 41.
Face pale; eye half closed and fixed; pulse scarcely perceptible. Soon face purple; respiration and pulse ceased.	Lungs slightly congested. Heart moderately firm; blood fluid and dark. Spleen and kidneys extensively diseased. All other organs healthy.	Boston Med. and Surg. Jour. 1852, vol. xlvi., p. 218.
Face pale; inspirations gasping. Heart ceased immediately.	No post-mortem examination.	St. Louis Med. and Surg. Jour., 1852, vol. x., p. 507.
Noticed gradual diminution of respirations and pulse; apparent death; revived, conversed; pulse suddenly failed and died three hours after operation.	No post-mortem examination permitted by friends.	Boston Med. and Surg. Jour., 1852, vol. xlvii., p. 358.

Several points present themselves for consideration, principally with regard to the cause of death.

1. Dr. Snow lays much stress on the necessity of sufficiently diluting the chloroform; and, as is well known, is much opposed to the plan of using a handkerchief or napkin, which appears to have been the only apparatus used in most of the fatal cases. In the *London Journal of Medicine*, April 1853, p. 322, he says: "There is no reason to believe that any of the accidents from chloroform have arisen from the continued exhibition of the vapor well diluted with air. On the contrary, the sudden manner in which the alarming symptoms came on in every case, shows that they were produced by the respiration of air containing not less than eight or ten per cent. of the vapor; and, from the history of the cases, it is most probable that the heart was disabled, in most instances, by the direct action of the chloroform. No systematic means were taken for properly diluting the vapor with air, in any case in which death has happened. The chloroform was exhibited on a handkerchief, or towel, or piece of lint, in all the cases but three; and, in two of these, it was not applied by a medical man. In order to show how easily accidents may happen with chloroform, I must beg attention to a few circumstances connected with its physical as well as physiological properties. On a former occasion, I showed (*Medical Gazette*, vol. xliii. p. 414), both from experiments on animals, and the amount of chloroform consumed in inhalation, that the average quantity of it in the blood of an adult patient, when insensible to the surgeon's knife, is about eighteen minims, and that, if twice that amount were present in the blood, it would suffice to cause death, even if it were uniformly distributed. Now, thirty-six minims of chloroform, when in the form of vapor, only occupy thirty-seven and a half cubic inches, or very little more than a pint. It is true, that the vapor of chloroform does not exist in a separate state at the ordinary temperature and pressure of the atmosphere; but air, when saturated at 60°, contains rather more than twelve per cent. of the vapor; and, supposing the air to contain ten per cent., which it does when the chloroform dew point is at 55°, the thirty-six minims would be contained in 375 cubic inches of air, more than half of which might possibly be in the lungs at one time." To prevent this result, he recommends and uses a special apparatus fitted with valves; and would also have the chloroform diluted with an equal part of rectified spirit, when—as must often occur when an inhaler cannot be conveniently procured—a handkerchief or sponge must be used. The effects of chloroform, administered in this way, are slower in being produced; but then the chance of a fatal result is much diminished. This is a valuable suggestion; and an equally important point to be attended to, in our opinion, is that, during operations, it should be *the special business of a competent person to watch carefully the effects of the chloroform on the patient from the commencement of inhalation.* Of course, no medical man—and no one else should attempt to give chloroform—would think of at once closing up the nostrils and mouth of the patient with a saturated handkerchief, sponge, or lint, to the exclusion of atmospheric air.

2. The symptoms and *post-mortem* appearances recorded, point to

arrest of the heart's action as the cause of death; and in the majority of the autopsies, this organ is mentioned as having been soft and flabby. Yet, according to Dr. Snow, it has not in any case been extensively diseased: while he has "several times given chloroform during surgical operations, when very marked disease of the organ existed, and to a great number of old people, in whom the arcus senilis in the cornea might lead to suspicion of its being affected with fatty degeneration." While, then, heart-disease is scarcely a contra-indication to the use of chloroform, it should make us exceedingly careful to administer it slowly, and to watch its effects; and with these precautions, we may adopt Dr. Snow's view, that it will then be even beneficial. "The action of chloroform on the circulation, when sufficiently diluted with air, is that of a stimulant. It has a very marked effect in preventing syncope during surgical operations; and, as syncope is attended with danger in diseases of the heart, there is reason to believe that the careful administration of chloroform is a means of safety to patients who, notwithstanding the heart-disease, have to undergo an operation. Moreover, the pain of even a slight operation has generally the effect of accelerating the pulse to about twice its natural frequency; and it is well known that mental excitement, muscular exertion, or any other cause which has such an influence on the circulation, may occasion sudden death where there is disease of the heart; but, as the pulse usually remains of its natural frequency and force during an operation under the effects of chloroform, this circumstance further confirms the conclusion, that the careful use of this agent is a source of safety, and not of danger, to the patient with heart-disease. In these patients, however, I think it desirable to conduct the inhalation in such a manner that excitement and struggling may be avoided, and not to prolong the use of chloroform longer than is absolutely neceseary, for protracted insensibility is sometimes followed by depression. I am happy to be able to quote the opinion of Dr. Sibson, who has paid great attention to the subject of chloroform, in favor of its employment under certain circumstances where there is disease of the heart. He says: 'persons, the subjects of heart-disease, when the dread of a severe operation is great, may sometimes be peculiarly benefited by the careful and short production of anæsthesia during the cutting part of an operation.'"—*Medical Gazette*, vol. xlii. p. 111.

Is the action of chloroform on the heart local, or does the paralysis of this organ take place through the influence of chloroform on the excito-motor system? This is a question open to investigation.

3. With regard to the treatment in cases where chloroform appears to be inducing a fatal effect, we know but little. Mr. Nunneley suggests sudden dashing of cold water on the face and chest, or producing a moderate stream of air by means of a fan,—moderate interrupted pressure on the chest and abdomen being at the same time employed. Dr. Snow places great reliance on the performance of artificial respiration, which, he believes, "would restore the patient in most instances, if it were put in force within half a minute after the breathing had ceased." He also advises that blood should be taken from the jugular vein, if the patient does not very quickly begin to show signs of returning animation.—*Association Med. Jour.*

DISEASES OF FEMALES AND MIDWIFERY.

On the Communication of Ovarian Cysts with the Fallopian Tubes.—M. Adolphe Richard, in the *Mémoires de la Société de Chirurgie de Paris*, tome iii, fascicule 2, directs attention to certain cases of ovarian disease, in which the cyst opens into the Fallopian tube. He has observed five cases of this description.

Case 1.—The body of a woman, aged from twenty-five to thirty years, was brought into the dissecting-room. She had died of typhoid fever. When the abdomen was opened, there appeared a large ovarian cyst, with apparently a portion of the small intestines adhering to its front: on removing the parts, however, this was found to be a portion of the Fallopian tube. The entire broad ligament of the left side was distended by a cyst of the size of a child's head, of pretty regularly spherical form, on the anterior face of which was the Fallopian tube, which was easily recognized by its connection with the uterus. The tube was of normal size at its inner third; it then began to enlarge, and, in the whole of its outer half, was of the size of the small intestines. It formed several flexuosities like those of the intestines, and was lost in the walls of the cyst, at the centre of its external surface. All the enlarged portion of the tube was full of fluid; and on even slightly pressing on the cyst, it was evident that they communicated. On the inner surface of the tube, the folds of mucous membrane were half obliterated. About three-fourths of an inch before its termination in the cyst, the abdominal orifice of the tube was represented by a sort of transverse valve. From this point to the cyst, the tube was much dilated, and presented longitudinal folds, evidently formed by the fimbriæ, connected by membranous deposit.

Cysts in the broad ligament may originate from the peritoneum, the uterus, all parts of Fallopian tube, the ovarian ligament, and especially from the *débris* of the Wolffian body. Ovarian cysts are recognizable by the presence of the atrophied ovary on the inner wall, as the presence or absence of the testicle on the walls of the cyst indicates the origin of hydrocele.

Case 2.—In another woman, much older than the preceding, the ovarian cyst was smaller, but had thicker walls, and was bound round by the tube, much more dilated than in the last case, and opening on the posterior aspect of the cyst. The remains of the ovary were found spread out in the walls of the cyst.

Case 3.—In a woman who died of puerperal peritonitis, the ovary and Fallopian tube on the right side were healthy: the former contained a *corpus luteum*. On the left side, there was a multilocular ovarian cyst, not very large; the ovary forming its inner wall, projected instead of being spread out. On the outer side, the communication with the tube was formed by a short, narrow passage, succeeded by a more sudden and spherical enlargement than in the preceding cases.

Case 4.—In a young woman who had died of phthisis, the only appearance which at first presented itself was enlargement of the external

part of the Fallopian tube. The ovary appeared to be merely increased in size; but, on pressure, fluctuation was felt in it; and on opening the parts, there was found to be a narrow circular opening into the tube from the ovarian cyst, which was formed in the centre of the gland. This may be considered as representing the first stage of the disease.

How was the fluid retained in the Fallopian tube? M. Richard ascertained by means of a catheter, that nothing separated the dilated from the normal portion; and he attributes the non-passage of the fluid to the narrowness of the uterine portion, and the tonicity of the parts. Sometimes, however, the fluid does escape. In the atlas of Boivin and Dugés, there are two figures, described under the name of dropsy of the tube, which resemble the cases described above. (*Traité Pratique sur les Maladies de l'Utérus, avec Atlas:* planche xxxv.) In one of these, the tube was dilated as far as the uterus. M. Follin presented to the *Société de Biologie* a dilated uterine tube, from which fluid escaped by the uterus. Morgagni, in his second letter, *De Sedibus et Causis Morborum*, refers to a case, related by Sponius, in which a cyst in the abdomen was connected with the Fallopian tube, and communicated with the uterus; so that there was a constant serous flow from the genital organs of the patient. Frank (*De Curandis Hominum Morbis*, lib. vi, pars prima) speaks of a woman in whom a pint of fluid escaped daily from the uterus and vagina. She died of phthisis; and a hundred and thirty pints of glary fluid were found in the left Fallopian tube.

Of the cases in which ovarian dropsy has been said to be evacuated by an opening through the peritoneal *cul-de-sac* of the vagina, M. Richard believes that some must be referred to escape of the fluid through the Fallopian tube.

M. Richard ascribes the origin of these tubo-ovarian cysts to distention of a Graafian follicle after the discharge of the ovum, instead of forming a *corpus luteum*.

On Inflammatory and Non-Inflammatory Rupture of Ovarian Dropsical Cysts. By Prof. Simpson.—The following are the conclusions appended to a paper by Prof. S. in the *Monthly Journal*.—1. The cysts forming an ovarian dropsy, occasionally rupture, *first*, from inflammatory effusion into and distention of their cavities; or, *secondly* (the contents of the cysts being only the common bland secretion of such cysts, and unmixed with any inflammatory matter), they may rupture from mere over-dilatation and gradual attenuation of their coats, or under sudden mechanical pressure and injury.

2. When a cyst ruptures from the effects of inflammation, or contains within it at the time of rupture inflammatory secretions and materials, the escaping fluid, if effused into the cavity of the peritoneum, is always liable to be followed by dangerous, and generally fatal, peritonitis.

3. If, however, a cyst bursts into the peritoneum under mechanical injury, or in consequence of simple laceration from over-distention of its cavity, and the fluid effused into the sac of the peritoneum is consequently not commixed with inflammatory secretion, there is little or no great tendency to peritonitis.

4. Sometimes, indeed, when thus a non-inflamed ovarian cyst ruptures into the cavity of the peritoneum, the life of the patient is preserved, or at least prolonged, by this accident.

5. When an ovarian cyst ruptures into a mucous canal, or upon the cutaneous surface, the safety or danger attendant on the laceration is not regulated by the inflamed or non-inflamed character of the effused fluid.

6. In cases in which the fluid of an ovarian cyst obtains an outlet by a mucous canal, or by the skin, a temporary or more permanent reduction of the tumor and comparative cure of it may be the consequence.

Lastly, let me add that, as in many cases and points the surgery of art is an imitation of the surgery of nature, possibly the artificial repetition and establishment of the above modes of relief, if they could be imitated safely and certainly, may yet be found capable of temporarily arresting, if not curing, ovarian dropsies in some appropriate cases, and more particularly in instances in which the bulk of the tumor is formed by one large preponderating cyst.

Case of Extra-Uterine Fœtation occurring in a Hernial Sac. By Dr. Skirvani.—An otherwise healthy woman, aged 38, had from childhood an imperfectly developed inguinal hernia of the left side. She had been delivered eight times without the occurrence of any thing abnormal, except that on one occasion she had given birth to twins; however, in consequence of her labors being difficult, the hernia had gradually increased until it had attained to half the size of a child's head. The patient suffered no other inconvenience from it than that occasioned by its bulk, and the hernia was easily reduced during her confinement to bed. In October, 1850, she experienced, while in the act of stooping, the sensation of a round body falling suddenly into the hernial sac; from that time the hernia steadily increased in volume, and the tumor became the seat of pains similar to those caused by a burn, which were relieved by cold applications. Two months later the patient perceived slight movements in the tumor, and Dr. Skirvan then saw her for the first time; he diagnosed an extra-uterine pregnancy, but deferred operating. On the 24th of April pains set in; they extended from the sacrum to the hernia, and rapidly increased both in frequency and intensity. The patient having been put under the influence of ether, an incision five inches long was made in the fundus of the tumor, which now reached to the knee; the placenta was then observed covered with a sero-fibrous envelope three lines in thickness, the structure of which roughly resembled that of the uterus. The child was extracted living, with the membranes, but died in an hour after the operation. The wound soon closed, and the patient recovered completely; the hernia, however, continued as large as it had been before its occupation by the fœtus.—*Wiener Zeitschrift. Nouvelle Encyclographie des Sciences Médicales*, October, 1852, p. 261. *Dublin Quarterly Journal.*

OBITUARY.

Death of Jonathan Pereira, M. D., of London.—In the decease of this learned physician our profession has sustained a signal loss. Few

men have added more than he to the stock of medical knowledge, whose lives have extended even much beyond the half century allotted to him. His contributions to the science of materia medica, to which he devoted his almost undivided attention, are of the most valuable and permanent character. The last edition of his great work on this subject, which was in the course of completion at the time of his death, will give him an imperishable reputation. The history of this distinguished man is useful and gratifying to contemplate, as it affords another beautiful illustration of the law that honest and well-directed effort, with singleness of purpose, and uncompromising perseverance, *will* conduct the aspirant for an honorable fame, from obscurity to the highest object of his ambition. We are indebted for the following particulars of his life to the *London Lancet:*

Dr. Pereira was born in London, on the 22d of May, 1804. At the age of fifteen, after receiving a good elementary education, he was articled as an apprentice to an apothecary, with whom he remained nearly three years. During this time he drew up a vocabulary of Latin terms for his guidance in dispensing. In the year 1821, he became a pupil at the General Dispensary in Aldersgate-street, where he attended the lectures of Clutterbuck on chemistry, materia medica, and practice; Birkbeck on natural philosophy; and Lambe on botany. While prosecuting his studies, the following year, in the surgical division of St. Bartholomew's Hospital, to which he had been admitted, a vacancy occurred in the office of apothecary at the Dispensary. This appointment he secured, being then but eighteen years of age. To increase his income, he now formed a class for private medical instruction, and in this undertaking was very successful. For the benefit of his students he published several small works, viz.: a translation of the *Pharmacopœia* for 1824; *Selecta è Prescriptis*, and a *General Table of Atomic Numbers* with an Introduction to the Atomic Theory. At the age of twenty-two he succeeded Dr. Clutterbuck, as lecturer on chemistry, and in his first effort made a most favorable impression. Soon after this he began to collect the materials for his great work on *Materia Medica.* Nothing could exceed the industry with which he pursued his researches; "he studied the ancient fathers of physic, and made himself master of the literature of his subject, from the earliest period of history; he collected the works of English writers, and he undertook the study of French and German, in order that he might read those of the Continent. At that time he devoted his whole energies to the subject, and worked for about sixteen hours a day. He was accustomed to rise at six in the morning, and to read, with but little interruption, until twelve at night." In 1833, he was elected to the Chair of Chemistry in the London Hospital; for two years, 1835–7, his lectures, seventy-four in number, were published in the *Medical Gazette*, and added greatly to his reputation, being translated into the German, and republished in India. In 1839, he reproduced them in his *Elements of Materia Medica*, a work so popular that the whole of the first part was bought up long before the second was ready for delivery. A second edition was immediately called for, and appeared in 1842. In 1841, he was appointed Assistant Physician to the London Hospital, and during

the following year published his work *On Food and Diet.* During the latter years of his life, he gradually gave up his courses of lectures, owing to an increase of business; and in 1851, he was appointed full physician at the Hospital. "He had now reached the summit of his ambition; his reputation as an author was established, and the rewards of industry were falling thick about him. He was a fellow of many scientific societies; he was in constant communication with the learned of all countries; he was intimately connected with many of the greatest institutions of the metropolis, and was, in fact, their brightest ornament; he had collected around him a large circle of friends and admirers, and he saw before him the prospect of wealth and happiness. In the midst of all this, however, he was stricken down, and that so suddenly, that he had hardly time to take leave of those who were about him. He died on the 20th of January last, aged forty-nine years, and within one week of health and hope, he was placed in his last resting-place. His funeral took place at Kensal-green, on the Thursday following, in the presence of a large number of friends and pupils, who mourned in silent grief."

Death of George Gregory, M. D.—At his residence, 6 Camden Square, London, on the 25th January, from disease of the heart and consequent dropsy. "Dr. Gregory," says the *Association Medical Journal*, "was a man of integrity, talent, and learning; but his popularity as a practising physician was impaired by his abrupt and unpremeditated remarks when called in consultation. His principal works are: 1, *Elements of Medicine*, which went through six editions; 2, *Lectures on Eruptive Fevers;* and 3, The article, *Smallpox*, in the *Cyclopædia of Practical Medicine.* He was, likewise, the author of various papers on different subjects, but particularly on Smallpox and Vaccination, in the Medical Journals. His skepticism as to the advantage and propriety of vaccination recently attracted considerable attention, but did not diminish the confidence of the public or of the profession in the value of the discovery of the immortal Jenner. Dr. Gregory held the office of Physician to the Smallpox Hospital, and Lecturer on Dermatic Pathology in the School of St. Thomas's Hospital."

Death of Robert James Graves, M. D., of Dublin, March 20th, aged 56.—To the unusually long list of obituary notices of eminent medical men for our present issue, we now have the melancholy duty of adding the name of Dr. Graves. On the American not less than the British practitioner this intelligence falls with saddening effect, like the announcement of the death of an old and valued preceptor. Dr. Graves was the son of the late Dean Graves, and in his youth, therefore, he enjoyed the advantages of intercourse with persons of station and independence, which contributed much to his subsequent position in society. He graduated with academic honors, and afterwards passed some time at a German university, where he acquired habits of original and independent thinking. He commenced practice at the same period with Dr. Stokes, and working cordially together in the same hospital, these two young aspirants for medical distinction, advanced rapidly in reputation and practice. He was the first to introduce into Ireland from the Continent

the method of clinical observation, the fruits of which have long been enjoyed by the profession in this country, in his *System of Clinical Medicine.* He was at one period editor of the *Dublin Hospital Reports*, and subsequently conducted the *Dublin Journal of Medical and Chemical Science*, now the *Dublin Journal of Medical Science*, in connection with Dr. Stokes. Many valuable papers appeared in its pages from his pen which added not a little to its character and success. Dr. Graves died in the enjoyment of wealth and a world-wide reputation.

Death of M. Orfila.—Died at Paris, on Saturday, the 12th of March, of inflammation of the lungs, in the 66th year of his age. From the scattered materials within our reach, we have gathered the following particulars of the life of this distinguished toxicologist. M. J. B. Orfila, like nearly all who have distinguished themselves in the pursuit of the science of medicine, inherited poverty for his fortune. He was born at Mahon, in the island of Minorca, on the 24th of April, 1787, and was consequently by birth a Spaniard. At the age of fifteen he was placed on board of a coasting vessel, and here occupying the position of second pilot for about three years, he conceived and matured the idea of devoting his life to scientific pursuits. At the age of eighteen, with this view, he abandoned his sea-faring life, and began, at Valencia, the study of medicine. In the summer of 1807, at the age of twenty, he visited Paris, and there, after four years of devotion to his chosen studies, under most embarrassing circumstances, he received the degree of doctor in medicine, in December, 1811. And now without any means of support, other than his profession, and with only *six francs* in money, a few books, and a mean, worn-out wardrobe, without patronage and resources of any kind whatever, he experienced difficulties which seemed to render it impossible for him to remain in Paris. But nothing daunted, he resolved on giving lectures upon his favorite branch, Chemistry. Friends accumulated slowly at first, but were enduring; in 1816, distinguished honors began to crown his efforts. In 1823, he was transferred from the chair of Legal Medicine to that of Chemistry, and in 1831 he was chosen Dean of the Medical Faculty. Beside being the founder of several, he was a member of most of the learned societies at home, and of almost every learned society of Europe. In 1835, he founded the magnificent museum which bears his name, and more recently bequeathed 126,000 francs to various medical institutions. As a writer his name is familiar, and his authority quoted wherever the science of medicine is cultivated. His more renowned works are *Traite de Médicine Legale*, fourth edition, 4 vols., 1848; *Elemens de Chimie Médicale*, seventh edition, 2 vols., 1844; *Toxicologie Générale*, fourth edition, 2 vols., 1843. Numerous others might be mentioned, but our space does not permit. His reputation as a toxicologist is world-wide, and the name of the Spanish pilot-boy has by his labors in legal-medicine become immortal.

PART FOURTH.

AMERICAN MEDICAL RETROSPECT, AND EDITORIAL.

PATHOLOGY AND PRACTICAL MEDICINE.

On Provisional Callus in Fractured Bones. By F. H. Hamilton, M. D., Professor of Surgery in the University of Buffalo.—I am now prepared confidently to affirm, that the so-called provisional callus never constitutes any part of the reparative process in the union of divided bones, when all those circumstances of simplicity, apposition, quietude, health, just management, &c., obtain, which may properly be considered essential to a normal process—that bones unite most naturally by definitive callus, and that provisional callus is accidental and secondary—the result probably of undue excitement alone. It may be, indeed, the rule, that in the union of fractures some amount of provisional callus shall be found, but it will be because it is the rule rather than the exception that undue excitement exists. My fracture tables published a few years since, and farther observations lately made, will show that broken bones are seldom kept in such complete apposition as will allow nature to proceed without interruption or disturbance.

Permit me to state my belief in another form: Broken bones unite when submitted to the most favorable circumstances, by definitive callus, or by a process allied to adhesion—by *first intention:* but under less favorable circumstances by provisional callus, or by a process allied to granulation—by *second intention.* The venerable and distinguished Dr. Mussy, of Cincinnati, to whom I stated my views, and by whom I believe their general correctness is admitted, said that he would express his notions of the reparation of fractured bones by saying, that nature, or the Great Author of nature, first sought to repair the injury in the simplest possible manner, by a direct union of the ends of the bones; but being defeated in this, she then chose the next best alternative, viz., to form a temporary callus; and this was the origin and object of nature's

splint. To these views, with certain qualifications, I assent. But then provisional callus is no longer the normal, but only a contingent or alternative process. Such are the conclusions to which I have arrived, after having examined several hundred fractures, nearly one-half of which were sufficiently recent to have enabled me to discover the callus if any had ever existed.

There is generally no difficulty in determining the presence of provisional callus in fractures of such superficial bones as the inferior maxilla, clavicle, radius, ulna and tibia, of the metacarpal, metatarsal and phalangeal bones, and indeed very often in fractures of other bones. Frequently the swelling is so inconsiderable that the surface of the bones can be distinctly felt at any period of the process of union. I have seized all such opportunities as were afforded me, and without being able to state numerically the result, I have no remaining doubt that provisional callus is not present in any stage of the reparation where the conditions of health, &c. &c., before stated, exist. The accuracy of these conclusions can only be tested by similar examinations upon the dead or living human subject. It is not possible, I think, to put the limb of any brute animal into that condition of rest requisite to determine nature's first intention: and here is the source of the fallacy into which Dupuytren and his disciples have been led. While my convictions upon this subject have originated and been confirmed by my own observations, I find also many substantial collateral evidences which cannot be overlooked in the argument. If Mr. Stanley is correct in supposing that provisional callus is not essential to the process of union, and that it is not uniform in its occurrence, then it is reasonable to infer that this circumstance is not the first and established order of events: would bones, which are kept in exact apposition and undisturbed, unite by definite callus alone, and that often in three or four weeks, if nature had established provisional callus as her chosen mode of union? If she is competent to unite bones by "first intention," why should she ever seek to unite by "second intention," unless driven to it as an alternative? Nature is not so capricious. She never attempts to accomplish the same end, under the same circumstances, in different ways. To this law, I believe, there are no exceptions. It is clear, therefore, that Mr. Stanley admits too much or not enough.

I find another argument in support of my opinion in the fact, that in the reparation of fractures occurring in certain bones, or in certain parts of bones, provisional callus, it is conceded, seldom or never occurs. Thus it is with the cranium, acromion process, coracoid, olecranon, patella, &c., and with all those portions of bones which are immediately invested with a synovial capsule. If provisional callus is the established mode of reparation, why in these cases is it not furnished? It was a very beautiful theory which referred the formation of provisional callus to an intelligent efficient cause, which in this manner sought to support the bones until a union of their divided ends was effected. Nor is the beauty of the conception marred by ascribing to it a more limited application, and invoking its interference only when the ordinary resources of nature have failed. We no longer hold that any such intelligent in-

terposition is necessary in the *first* instance, or in simple fractures, and if demanded at all, it is only for an exigency. But we have grave doubts whether nature ever allows any interference with her laws even in an exigency, unless by the substitution of a miracle. Provisional callus is just as much the inevitable result of natural laws, as is definitive callus, or any reparative action. It is formed, because in that condition of the parts and of the general life, its formation was inevitable. Whether needed or not, it will, under certain circumstances, exist.

It is affirmed, nevertheless, that in the fracture just named, this callus is not formed, because it is not required. While to me it seems that nowhere could it prove more useful, since, with the exception of the cranium, it is in these very cases that the obstacles to union are most numerous. In fractures of the patella, olecranon, &c., the action of the muscles tends constantly and powerfully to displace the fragments, and gladly would the surgeon avail himself of the assistance of a temporary callus; but it is rarely present, and then in no useful degree. So, also, in fractures of the neck of the femur within the capsule, and in other similar cases, we cannot say that temporary callus would not be advantageous in facilitating the retention of the fragments, yet the "intelligent efficient agent" neglects to furnish it. The only satisfactory reason which, as we think, can be assigned for the absence of callus in these cases, is found in the doctrines which I now advocate; that is to say, it is usually absent because that amount of excitement and irritation are usually absent which alone determine its formation. In the case of the olecranon, patella, &c., the fragments being separated from each other by muscular action, so that no painful pinchings or chafings occur, and their rough surface, or sharp points being rather drawn away from than protruded into the flesh, so sufficient provocation exists for the production of inflammation and effusion. Hence the failure of *provisional* callus, but wherever the fracture occurs, and however moderate the action, *definitive* callus does not fail; still the broken surfaces of the patella and olecranon are softened, and smoothed, and covered over with a new matter, which, if contact could have been secured and preserved, would certainly have served to consolidate and repair the breach. The natural reparative process proceeds, but only the accidental process is omitted. This latter, however, is seen again even here, when from other and unusual causes a sur-excitement is established.

Temporary callus is not formed upon bones invested with synovial membranes, because here, too, as in the neck of the femur, there are not so many structures lacerated and irritated, and the supply of this effusion must be the less not only in proportion to the intensity of the inflammation, but also to the less amount of structures implicated. Possibly other and more satisfactory reasons may be assigned why provisional callus is not formed usually when the neck of the femur is broken within the capsule; but we certainly can never admit the common, and as here applied, the too palpably abused explanation, that it is not wanted. It is wanted! and in no case so much as now. The same argument applies to fractures of the cranium. With less soft parts to suffer excitement and to determine effusions, and with no motion of the fragments

to provoke it, provisional callus is less apt to occur. But you need not to be told, gentlemen, that here again, when the injury has been most severe and the consequent excitement most intense, the so-called "nature's splint," has been formed; although in this instance it could serve no possible purpose. In short, provisional callus occurs still everywhere, when against and in the vicinity of the bone there is the requsite lesion and action; and it will occur as certainly when the fracture is incomplete, or when there is no fracture, but only a caries, a necrosis or a simple bony or even periosteal inflammation—and it becomes thus the basis of many tumors which grow from either the bone or the periosteum.

Recapitulation.—First. Broken bones unite directly, naturally, and by preference, through the interposition of definite callus. *Second.* Broken bones unite indirectly, and accidentally, through the intervention of provisional callus. *Third.* The absence of provisional callus does not denote that it could serve no useful purpose. *Fourth.* Its presence does not indicate its necessity or utility. *Fifth.* It has, therefore, no final purpose, but is the unavoidable result of a certain abnormal condition: and while it is doubtless true that in fractures it frequently renders valuable assistance to the surgeon, it is equally true that it often proves a source of hinderance.

Treatment of Epilepsy.—Dr. Horace Green (*N. Y. Med. Gaz.*) relates a very interesting case of epilepsy treated by the topical application of nitrate of silver to the larynx. The patient, aged thirty-seven years, had suffered epileptic attacks since the age of ten, supposed originally to depend upon worms; they returned once in about two weeks until the age of nineteen, when he began the internal use of nitrate of silver. This remedy he continued for a period of two years, taking one grain and a half daily; at the end of this time the fits had ceased to recur, but the skin had acquired the dark blue tinge of the salt. Two years after he was upset while travelling in a stage-coach, and though not materially injured, his nervous system was much excited, which induced a return of his old malady. With occasional intermissions they now increased in frequency, and during the last four years he would often have six or eight attacks in the twenty-four hours. Dr. Green proposed to cauterize the larynx, and accordingly applied with a sponge-probang a solution of nitrate of silver, 45 grains to the ounce of water. The patient now passed over a period of ten days without a recurrence of his epileptic attacks. A corresponding change took place in his mental powers. On the tenth day, after considerable excitement, a slight attack occurred, and was repeated on the following day. The application was renewed, the strength being increased to eighty grains, and the sponge carried to the bifurcation of the trachea. The same relief followed as before, and he passed over the first decade, but the fits recurred again on the twentieth day. After repeated trials he failed to pass the second decade; quinine was used, but at the time of the report without the desired effect. Dr. Green does not indorse all the views advanced by Marshall Hall on the nature and treatment of nervous diseases, but the results in this case warrant the conclusion that where no organic lesion exists, "a morbid condition of

the larynx may constitute the essential connecting link between the primary exciting cause of the disease and the subsequent convulsions; and to warrant the hope that in recent cases of inorganic epilepsy, we have it in our power, by an entirely safe and facile mode of treatment, *to break up this connection*, and arrest the disease."

Original Communications.

A Case of Traumatic Tetanus successfully treated with Sulphuric Ether. By L. Woodworth, M. D., Niagara County, N. Y.

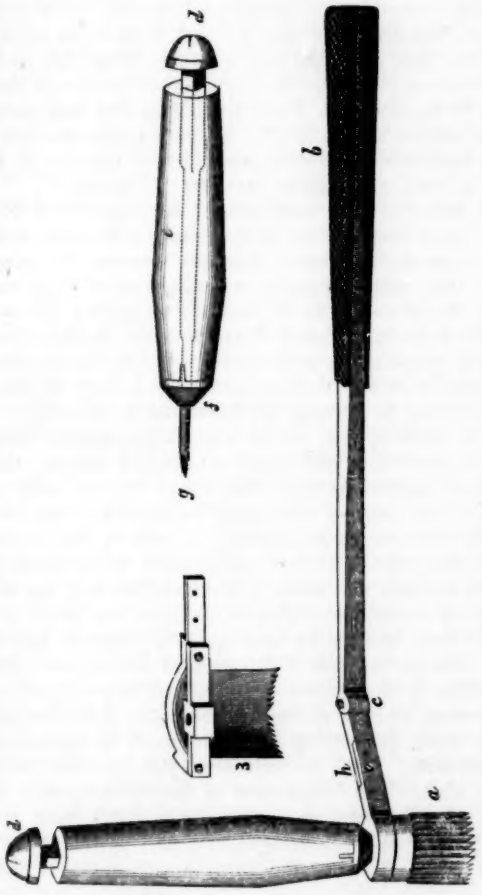
Case.—Barber Weeks, aged 18 years, while adjusting a band on the drum of a wheel in a steam saw-mill, was caught by the shirt sleeve, and his fore-arm being drawn between the cogs of the opposing wheels was severely lacerated. The accident occurred on the 23d of September, 1851. On the 10th of October, seventeen days after the injury was received, he began to complain of rigidity of the muscles of the neck and at times of a difficulty in respiration, with a sense of tightness in the præcordia. These continued to increase in severity until the third day, when the whole system became subject to spasms, and tetanus was fully developed. The spasms came on in paroxysms in the form of opisthotonos: the jaws were brought forcibly together, by which the tongue was severely bitten, making it necessary to introduce a wedge of soft wood between the teeth. Slight causes would excite the paroxysms, such as being aroused from sleep, moving the injured arm, &c. A profuse perspiration covered the body during the whole course of the disease.

In consultation with my friend Dr. Eli Hurd, an experienced physician, it was resolved to put the patient upon the use of morphine and brandy, and if necessary employ strychnine; accordingly a quarter of a grain of sulph. morphia was given every two hours, and brandy *pro re nata*. The stimulants did not act favorably and were discontinued; the morphine seemed to alleviate the symptoms slightly; no cathartics were administered, and there was no movement of the bowels for upwards of a week, when ten grains of calomel were given, followed in a few hours by two drops of croton oil. No evacuation having been obtained, an enema of castor oil and spirits of turpentine was administered, which had the desired effect. In addition to other treatment frictions to the spine were employed, but with no better success.

The most important point in the history of this case, however, and that for which I am induced to communicate it, is the agency which ether exerted over the spasms. On the third or fourth day of the attack this anæsthetic was resorted to with the happiest effect; a small open-mouthed bottle, filled with cotton saturated with ether, was applied to the nostrils at every recurrence of spasms, and produced complete relaxation. Chloroform was used with nearly the same effect, but the patient from some cause preferred ether. The paroxysms continued for eight or ten days without any abatement of their severity, except temporarily from the use of the ether, when they gradually began to subside, returning at longer intervals and with diminished force, and soon after entirely disappeared.

A Description of, and Remarks upon, a newly constructed Trephine. By SAMUEL S. PURPLE, M. D., &c. (With a Wood Cut.)

Several years since, owing to difficulties that arose in the operative management of a case of severe and extensive injury of the head attended with depression of, and extravasation of blood under, the cranium, in a near relative, I was led to engage in a series of experiments which at last resulted in the construction of the instrument represented in the accompanying illustration.



EXPLANATION OF THE ENGRAVING.

Fig. 1 The instrument entire with the centre pin attached ready for use.
" 2 The centre pin with sliding handle.
" 3 A half circle to be used in place of Hey's convex Saw, in most instances.
a. Crown part like that of an ordinary trephine; *b.* handle of instrument; *c.* hinge joint; *d. d.* centre pin attached and detached; *e.* sliding handle of centre pin; *f.* shoulder of centre pin, screw shaped; *h.* point at which the handle can be separated, so as to allow of attachment of different sizes of circles and half circles.
☞ The drawing represents the instrument one-half the original size.

The several parts of this instrument, and their use, may be described as follows: The crown part of an ordinary trephine (Fig. *a.*) attached at

right angles to a straight handle (*b.*) having a hinge joint. (*c.*)* A centre pin (Fig. 2 *d.*) with a sliding handle (Fig. 2 *e.*), which handle can be moved freely, up or down, and which, when attached to the instrument rests its shoulder (Fig. 2 *f.*) upon the upper surface of the crown portion. The object of this movement is to allow of pressure, more or less, being made upon the crown portion by the operator's left hand, as occasion requires. The lower part of the centre-pin (Fig. 2 *g.*) is screw-shaped, which on being inserted as far as is deemed necessary into the bone remains stationary and serves to fix the instrument; it also answers all the purposes of forceps for removing the detached portion. In order to use the instrument it is necessary for the operator to place the centre pin in the crown portion (as represented in Fig. 1.) and then fix its screw point into the bone; after this, grasp the sliding handle in the left, and the handle of the instrument proper in the right hand, place now the handle at right angles, by bending the hinge joint, then pull and push the handle in the same manner as in using the ordinary amputation saw. By so doing the crown portion will traverse one-third of the arc of a circle, or even more if desired, with perfect ease and uniformity.

This instrument is intended as a substitute for the trephine of the present and trepan of former times. But as the former instrument has almost if not entirely superseded the latter, it is only necessary for us to confine our remarks to this, while instituting a comparison of their respective merits; and in doing so it will be seen by examining the engraving and in using the instrument that it differs from the ordinary trephine 1st, in the mode of applying the motive power; 2d, in the freedom and ease of working it; 3d, in its uniformity of action; and above all, 4th, in the consequent less liability of injuring the brain and its coverings.

It is believed that if there is one operation more than another that the experienced surgeon approaches with dread, it is that of applying the trephine in cases which necessitate its use. This dread lies not only in the acknowledged fact of the extreme delicacy of the operation, but also in the fatigue to the operator which *accompanies* as well as *follows* its performance. But by the instrument here represented the motions of the operator's hand and arm are the same as those produced in the use of the amputation saw—a movement which we believe has never (at least to our knowledge) been brought to bear upon this class of instruments before. If we mistake not, one of the greatest difficulties in the way of using the trephine is the almost utter impossibility of keeping the instrument in a vertical position as respects the plane of the surface to which it is applied, while performing the movements of supination and pronation of the fore-arm. With the instrument just described there is no difficulty of this kind. The detachment of the motive power, as well as that by which the pressure upon the saw is made, from the centre pin, does away with all such irregularity, and admits of any amount of inclination being given to the saw, in the direction that

* This is the joint represented in the engraving, although a button joint that will admit of more motion, may be used, at the option or fancy of the manufacturer. So also with the joint for the attachment of the different sizes of circles or half circles.

the operator may please; and that too without the possibility (almost) of the operator becoming fatigued, or incurring, by so doing, increased liability of injuring the brain or its investments. This feature has long been a desideratum in the action of this instrument, and is one, it is believed, which will do away with some of the greatest difficulties and inconveniences and dangers of the operation of trephining.

But it is in the use of the half circles that the superior adaptation of this instrument will be seen. Take for instance a case of fracture attended with depression of bone, and extensive injury of the membranes and brain—the depressed portion being movable, but not sufficiently so as to admit of being extracted. Here the application of a full circle would cause greater depression and perhaps consequent increased injury of the soft parts beneath. In this case the half circle may be used without the least danger of causing motion of the depressed portion or injuring the soft parts. Here, then, the indications meant to be, but never answered by Hey's convex saw, are satisfactorily fulfilled. It is the writer's conviction of the value of the foregoing facts from experience, that has led him to place this short and imperfect account of the instrument before the readers of the *New-York Journal of Medicine.*

EDITORIAL.

Remarks on the Proposed Amendments to the Constitution of the American Medical Association. One of the important questions which will probably engage the attention of the Association, at its session to be held in this city on the 3d of May next, is that of the proposed amendments to its constitution. We have intentionally withheld an expression of our own opinions on this subject until this late hour in order to hear the arguments *pro* and *con* which might be adduced by the leading minds which represent most closely the more remote or rural districts of the profession. But as the canvassing of this question has not to any great extent been carried on in our medical journals, we have but little opportunity for judging correctly what are the views of the great mass of delegates on this subject. It will be remembered that at the last meeting of the Association held at Richmond, the committee on amendments to the constitution, appointed the year previous, made a majority and minority report; and that there was also a report from a new committee raised to report on the propositions embraced in these two reports. We shall state the leading points embraced in each.

The majority report proposes in future to confine the representation to members of State and County Medical Societies and to the Faculties of Chartered Medical Colleges under certain conditions which are stated, but which we regret to say do not come up to the present standard of the Association. Thus it proposes that "no State or County Society shall have the privilege of representation, which does not require of its members an observance of the code of ethics of this Association;" this is all right. But does it exclude from the privilege of representation such medical colleges as do not require of their faculty and students an observance of these recommendations which it has adopted for the regulation of medical teaching and the admission of students? Here is a point

which we fear has not received due consideration, and one which requires to be borne in mind in the discussion of these matters.

The minority report recommends that State and County and District Societies shall be the only sources of representation, consequently requires that professors of medical colleges shall find their way through these sources into the Association. Thus virtually excluding well-organized colleges, hospitals, &c., from the privilege of representation. On the acceptance of the majority and minority reports, a committee of three was appointed to report in definite and proper form such amendments as would embrace the views set forth in these two reports, and such other views as should appear to them advisable.

The report of the third committee proposes the same ratio of representation (i. e. ten per cent.) as that of the others, and also to continue as heretofore the representation from medical societies, chartered or voluntary, but in the case of colleges and hospitals it restricts the representation to one delegate from each faculty, and to one from each of the hospitals comprising accommodations for not less than one hundred patients. It requires each body, before it can be represented, to acknowledge fealty to and adopt the code of ethics of the Association; and in addition makes special provision for a representation from the University of Virginia and the medical staffs of the United States army and navy. The recommendations contained in this report are in the main satisfactory. It, however, contains one highly objectionable feature, which, if adopted, places the Association in a dilemma which all will unhesitatingly deprecate. We mean that portion which relates to the period of instruction in the colleges. It provides for a representation, under certain other restrictions above mentioned, of one member from each college whose term of instruction is not less than *sixteen* weeks. Thus virtually doing away with all of the recommendations of the association which relate to this important feature of education, and involving our national medical congress in an inconsistency which will not fail to cripple its influence with the great mass of the profession and impair their confidence in its prospective usefulness. The adoption of such a feature would indicate, aye establish, a retrograde movement in regard to the requirements of the Association. Now we hold that, as a general rule, all retrograde movements in large scientific bodies are to be abhorred—if for no other reason than this, that such movements imply mistaken views of policy. The cause of science and even humanity requires at the hands of the American Medical Association no such confession at the present time. Its recommendations on this point are just, and must, and we believe will, be sustained by the profession at large.

As it regards the term of instruction in our medical colleges, it has been the manifest determination of a large majority of the schools to make no advance in the period of their lecture term; and this being the case, we submit whether it would not be better to require such steps to be taken, by lengthening their courses two or more weeks, before they should be in future eligible to a representation. It is true such a requirement would not meet in full the recommendations of the Association, but still it would be an advance upon the present period of college instruction, and would probably in due time lead to still further advancement in

this direction. On this matter we hope all delegates will come prepared to express an opinion.

While upon these matters relating to the Association we will state for the benefit of our readers, that, from present indications, the coming session will be one of unusual interest, and will, without doubt, be the largest ever yet held. The time and the place, together with the great and important interests at stake, will secure the attendance of the best men of the profession, from every section of our wide extended country. On the part of the profession of this city we will add that no pains will be spared to give the delegates a reception becoming the metropolis of America.

Second Volume of the late Dr. Drake's New Work.—It affords us much pleasure to announce to our readers that the materials for the second volume of Dr. Drake's great work on the principal diseases of the interior valley of North America were left in a sufficient state of forwardness to admit of publication. The labor of superintending and preparing the matter for the press, we understand, has been intrusted by the relatives of the deceased to S. Hanbury Smith, M. D., late Professor of the Principles and Practice of Medicine in the Starling Medical College, and late editor of the Ohio Medical and Surgical Journal. This office, we feel assured, could not have been intrusted to better hands. Dr. S. brings to the task that ability and willingness of heart, which will insure success for the undertaking.

Hospitals in the City of New-York.—In no single particular does the marvellous growth of our city daily create a wider and more deplorable difference between want and supply than in the matter of the sick and hospitals for their resort. With a population of upwards of half a million, having a rate of increase which is soon to double it, and with a pauper list, which, if not comparable with that of any city on the globe, is at least sufficiently necessitous, New-York has scarcely hospital advantages within its limits for the proper accommodation of a thousand patients. Although she is unrivalled in commerce, wealth, and enterprise, and in all that pertains to present and future greatness, yet in the nobler deeds of charity, the proper maintenance and provision for its indigent and destitute sick, her position is far less enviable. Neighboring cities of much less magnitude surpass her in the character of their charitable institutions. From an article in one of our daily papers, carefully prepared by a physician of this city, we learn that the Pennsylvania Hospital has productive property and investments exceeding $300,000 in value, the income from which, in 1852, defrayed the expenses of the hospital and left a surplus in its treasury of $5,947.59. The Massachusetts General Hospital has a capital yielding an income of $171,119. These institutions have both received a large number of valuable legacies; the former to the amount of $126,000; the latter, $503,000. Foreign hospitals are generally liberally endowed, and often by individual munificence; St. Bartholomew, London, has an annual income from estates amounting to upwards of $150,000. The annual receipts of the endowments of the hospitals in the city of Paris amount to nearly four millions of dollars.

From the same authority we learn the humiliating fact that:—"The New-York Hospital relies for support almost entirely upon the bounty of the State. It has no landed property except the premises occupied in Broadway, and by the Asylum for the Insane at Bloomingdale; nor has it any invested funds." Instead of possessing any clear income it is $40,000 in debt for the improvements made in its ventilation, &c., in 1850. The amount of contributions which it has received during the eighty years of its existence, scarcely exceeds the sum of $10,000. Such is the present financial condition of one of the oldest eleemosynary institutions of this city, which from age and respectability appeals most strongly to the citizens not only for support but for permanent endowment. It should no longer be permitted to eke out its existence from the public treasury. If it was a commercial enterprise, its appeals would not fail to be heeded; we hope that the spirit of philanthropy in our city will keep pace with the spirit of commerce.

But New-York has not only need to support liberally her hospitals already established, but she must create others, to meet the increasing demands of her rapidly augmenting population. We rejoice that efforts are being made by able and efficient persons to accomplish such objects. Not the least important of these is the establishment of a Hospital for Sick Children. A pamphlet* before us on this subject, by one of the most respectable physicians of the city, and whose long intimacy with the class for whom he makes his touching appeal, sets forth with startling facts the great necessity of such an institution. It is a most melancholy reflection, that the mortality among children in this city for the year 1851, amounted to nearly 12,000, or 54 per cent. of the whole number of deaths. We trust this pamphlet will have a wide circulation among the benevolent of our city, and that the facts which it communicates will excite to generous efforts to relieve this suffering and helpless class.

Amputation at the Hip-Joint.—In a statistical article on *Amputation at the Hip-Joint*, in our September number, the interesting and successful case by Dr. Moses Sweat, of Maine, published in this Journal for July, 1847, was overlooked. We regret this omission, both for the inaccuracy it occasions in statistics which we endeavored to make complete, and for the unintentional injustice done to this veteran surgeon, who, in a successful practice of upwards of forty years, has won an honorable place in the history of American surgery. The operation was performed in 1844, under the most unfavorable circumstances; and for its successful issue the operator deserves great credit. The patient is still living, and in the pursuit of his usual occupation, that of a stone-cutter. This case, added to our previous collection, reduces the mortality of amputations at the hip-joint in this country to twenty-five per cent. As early as 1812, Dr. Sweat successfully amputated the leg of a lad, fourteen years old, so near the hip-joint as to remove the bone to the cotyloid cavity. This important case has never been published. The same operator, as our readers

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* *A few Remarks about Sick Children in New-York, and the Necessity of a Hospital for them.* By PHILOPŒDOS, an ex-Dispensary Doctor.

are aware, was one of the first to extirpate the parotid gland in this country, an operation which he has several times repeated.

Microscopes.—We have great pleasure in calling the attention of our readers to the advertisement of the Messrs. Grunow, of their Microscopes and Microscopic Apparatus. Mr. J. Grunow, the head of the firm, was taught his art in the best schools in Germany, and has been for years practising in our city. The firm have made miscroscopes for very many of our best observers, and while their lenses are pronounced by all, equal to the best French and German, and only inferior to the very highest priced English glasses and those of Mr. Spencer, their stands and other apparatus are second to none. Above all, they are prompt, reliable men, and those who order microscopes or apparatus from them, may rely that the work will be done without needless delay, and that when promised at a specified time, it will be delivered *at that time.*

We would commend to the favor of our chemical friends, the moulded microscopes, invented by Prof. L. Lawrence Smith, of Virginia, and now manufactured by Messrs. Grunow. They present great advantages in the entire security from danger to the instrument by acid fumes, &c.

To medical students, and to all whom the Diva Pecunia has not been gracious, his student's microscopes—cast-iron frames—will be especially welcome, as enabling them to procure at a very small expense, and without vexatious delays, an instrument with which all the structures of the human body, can be satisfactorily studied. This form of microscope was made at the suggestion of Prof. Clark, and is by him strongly recommended to his class.

Astley Cooper Prize.—The fifth triennial prize of three hundred pounds, under the will of the late Sir Astley Cooper, Bart., will be awarded to the author of the best essay or treatise "*On the Cause of the Coagulation of the Blood.*" The conditions are, that the essays or treatises written for such prize, shall contain original experiments and observations, not previously published, that they shall be illustrated by preparations and drawings as far as the subject will admit, and that the successful essay become the exclusive property of Guy's Hospital. With the exception of the physicians, surgeons, or other officers for the time being, of Guy's or St. Thomas' Hospitals, and their relatives by blood or affinity, the prize is open for competition to the whole world. Essays intended for the prize must be sent in the usual manner, to the address of the physicians and surgeons of Guy's Hospital, on or before January 1, 1856.

Bellevue Hospital.—At a meeting of the Board of Governors of the Alms House, on the 5th of April, James C. Forrester, M. D., was unanimously appointed a member of the Medical Board of Physicians at this Hospital, to fill the vacancy occasioned by the death of Dr. A. B. Robeson.

At the same meeting, it was resolved to increase the Medical Board of Physicians at this Hospital, by the addition of three new members, and in accordance with this resolution, JOHN J. CRANE, M. D., ISAAC E. TAYLOR, M. D., and JOHN W. CORSON, M. D., were duly appointed.

Professional Honors.—We are pleased to learn that the Imperial Academy of Paris have elected Prof. Valentine Mott, of this city, and Prof. John C. Warren, of Boston, foreign associate members. We are also pleased to hear that our learned friend and contributor, Dr. Bennet Dowler, of New Orleans, has received a communication from the Secretary of the Royal Society of Northern Antiquarians at Copenhagen, of which the King of Denmark is President, informing him of their intention to elect him a Fellow of that renowned Society, and commending highly his successful prosecution of his inquiries into science and natural history.

New Medical Journals.—We have received the following new medical periodicals, all of which has been established within the present year, viz.: *The Southern Journal of the Medical and Physical Sciences*, edited by Drs. JOHN W. KING, W. P. JONES, R. O. CURREY, and B. WOOD, a bi-monthly, pp. 75, issued on 1st of January, and published at Nashville, Tenn.; *The American Psychological Journal*, conducted by EDWARD MEAD, M. D., devoted chiefly to the elucidation of Mental Pathology and the Medical Jurisprudence of Insanity, issued from the Cincinnati Retreat; *The Virginia Medical and Surgical Journal*, edited by GEORGE A. OTIS, M. D., and HOWELL L. THOMAS, M. D., a monthly, pp. 84, first issue April 1st, published at Richmond, Va; *The Esculapian*, edited by C. D. GRISWOLD, M. D., a monthly quarto, pp. 8, published in this city. These journals all evince care in their arrangement, and that spirit of enterprise in their conduct, which gives the best surety of future patronage and success.

New-Yorker Medicinische Monatsschrift.—We regret to see that this journal, established in this city upwards of a year since, for the benefit of German physicans, ceased with the January issue. It was ably conducted by Drs. HERZKA, KRACKOWIZER, and ROTH, and contained papers of permanent value to the profession.

Medical Colleges in New-York City.—Since our last issue the several medical schools in this city have held their annual commencements. In the New-York Medical College, on the 6th of March, the degree of M. D. was conferred upon twenty-eight candidates; the valedictory address was delivered by Prof. Barker. The commencement exercises of the medical department of the University of the City of New-York were held on the 9th of March, and the degree of M. D. conferred upon one hundred and one candidates; the valedictory address being delivered by Prof. Draper. The College of Physicians and Surgeons of the University of the State of New-York held their commencement exercises on the 10th of March, and the degree of M. D. was conferred upon sixty-four candidates; the

valedictory address was delivered by Dr. Thomas Cock, Vice-President of the College. The attendance at the several Colleges, during these exercises, was large and respectable, and the ceremonies were interesting and becoming. We are pleased to see that at each of the schools a special course of lectures is announced.

University of the City of New-York—Medical Department.—With this number we have to announce another change in this school, i. e. the resignation of Prof. Clymer of the Chair of Theory and Practice of Medicine; and the appointment of John A. Swett, M. D., in his stead. The reputation of Dr. Swett as a lecturer and author is such as to require no praise at our hands. The policy of selecting candidates to fill vacant chairs in our medical schools from the physicians of our own city, we have long thought to be just and true, and in this instance we have reason to believe will prove a judicious and profitable one.

OBITUARY.

Death of Dr. William E. Horner, of Philadelphia, 13th of March, 1853, in the 60th year of his age. We announce with unfeigned sorrow the death of this eminent physician, who has long been one of the most prominent members of his profession in this country, as a surgeon, a teacher and a writer. From a brief obituary in the Medical Examiner, we learn that Dr. Horner was a native of Viaginia, and a graduate of the University of Pennsylvania with which he has sustained a most honorable connection of thirty-three years. Already commissioned as a surgeon's mate in the army of the United States, in 1813, a year previously to his graduation, in the summer of 1814 he was ordered to the Niagara frontier, where he was actively employed at Buffalo, Niagara, and Fort Erie. Soon after the peace of 1815, he entered upon the practice of his profession, first in his native town, but not satisfied with so limited a sphere, he removed in the same year to Philadelphia. His advancement here was rapid; within two years he became Demonstrator of Anatomy in the University under Dr. Physic; three years later he was appointed adjunct Professor of the same branch; and in 1831, on the resignation of Dr. Physick, he was elected Professor of Anatomy in the University, which position he held at the time of his death. He had suffered for years with symptoms of cardiac disease, and for some weeks dropsical effusions had appeared; he however continued to discharge the duties of his chair until within a short period of his death. The *post-mortem* examination confirmed the diagnosis of disease of the heart.

Dr. Horner had no superior as a teacher; as a lecturer he had a clear, chaste and unaffected style of delivery, and possessed the entire confidence of his class. As a writer he has gained a national distinction in the composition of his works on Special Anatomy and Histology. His last communications were the interesting reminiscences of the frontier campaign of the last war, which appeared in the *Medical Examiner*.

Death of James Campbell, M. D., of this city, March 12th, aged 59 years. Dr. C. was a native of Ireland, a graduate of the College of Surgeons, London; and of the College of Physicians, Edinburgh. He entered the British naval service, as Surgeon, at an early age; but soon retired and practised his profession several years in the West Indies. He subsequently came to this city, and during a residence of upwards of a quarter of a century had acquired a wide circle of friends and an honorable reputation.

Death of A. B. Robeson, M. D., at his residence in this city, March 22d, of pneumonia, aged 36. Dr. Robeson was one of the physicians of Bellevue Hospital at the time of his death; at a subsequent meeting of the Board of Governors of the Alms House, appropriate resolutions of condolence to his family were passed.

Death of James B. Adams, M. D., at Curaçoa, W. I., 16th Jan. Dr. Adams was formerly one of the House Physicians of Bellevue Hospital of this city, but recently of Dunkirk, N. Y. He fell a victim to yellow fever while travelling with an invalid sister.

Death of William Power, M. D. of Baltimore, August 15th, 1852, aged 39 years. The subject of this notice, although his death occurred at so early an age, had already distinguished himself as a student, a practitioner, and a teacher. In the latter capacity, as Professor of Theory and Practice, in the University of Maryland, his career was eminently successful and his death will prove a serious loss.

Death of Professor Beck.—Died, at the residence of his brother, in the city of Albany, on the 20th of April, Lewis C. Beck, M. D., aged 54 years. Dr. Beck was the youngest brother of Prof. T. Romeyn Beck, of Albany, and the late Prof. John B. Beck, of this city. By his deep and varied scientific attainments he had distinguished himself alike in medicine and the sciences in general, in the preparation of a portion of the Natural History of the State of New-York, and in works on Chemistry, Botany, &c., &c. He was Professor of Chemistry in the Albany Medical College, and also Professor of Chemistry and Natural Sciences in Rutgers College, New Brunswick, N. J. We deeply deplore the loss which our profession as well as the sciences have sustained by his decease.

Death of Dr. Joseph T. Pitney, of Auburn, on the 20th inst., aged 66. He was born in Mendham, Morris County, N. J., on the 18th November, 1786. In June, 1804, he commenced the study of physic and surgery, and in November, 1807, came to New-York, where he attended upon lectures and hospital practice until March, 1808. In the following April he turned his thoughts toward a residence in the western part of this State. It was then but sparsely settled, yet it was rapidly attracting emigration. In September, 1813, during the last war with Great Britain, he went to the Niagara frontier, and was appointed Hospital Surgeon in General McClure's brigade.

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